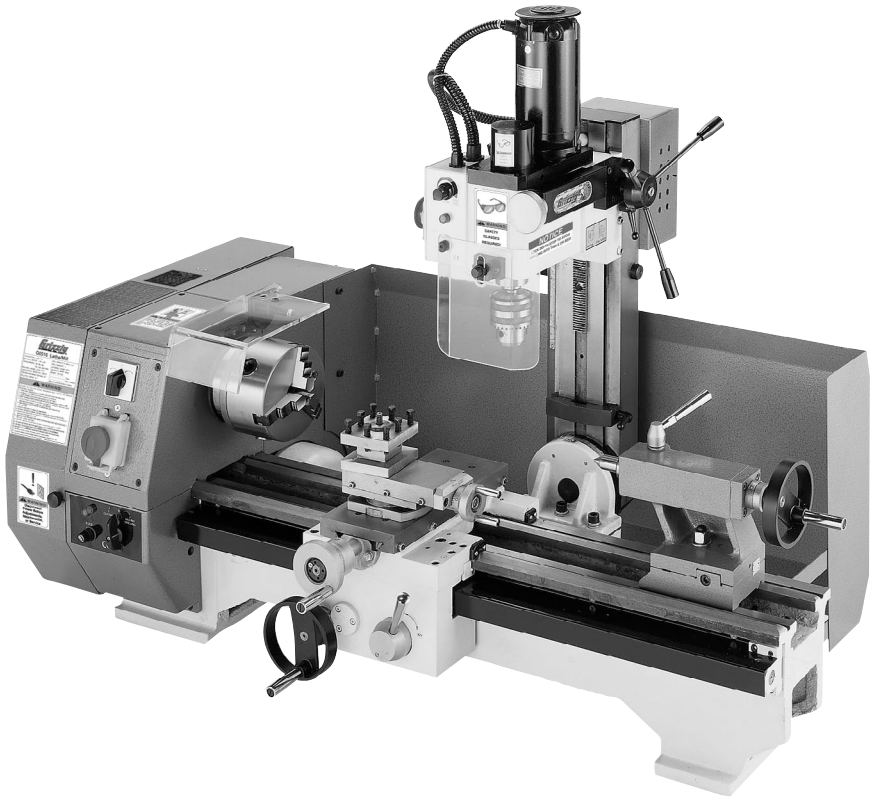
MODEL G0516
COMBINATION LATHE/MILL
OWNER'S MANUAL



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WARNING: NO PORTION OF THIS MANUAL MAY BE REPRODUCED IN ANY SHAPE OR FORM WITHOUT THE WRITTEN APPROVAL OF GRIZZLY INDUSTRIAL, INC.
(FOR MODELS MANUFACTURED SINCE 8/06) #TR4818 PRINTED IN CHINA

⚠ WARNING!

This manual provides critical safety instructions on the proper setup, operation, maintenance and service of this machine/equipment.

Failure to read, understand and follow the instructions given in this manual may result in serious personal injury, including amputation, electrocution or death.

The owner of this machine/equipment is solely responsible for its safe use. This responsibility includes but is not limited to proper installation in a safe environment, personnel training and usage authorization, proper inspection and maintenance, manual availability and comprehension, application of safety devices, blade/cutter integrity, and the usage of personal protective equipment.

The manufacturer will not be held liable for injury or property damage from negligence, improper training, machine modifications or misuse.

⚠ WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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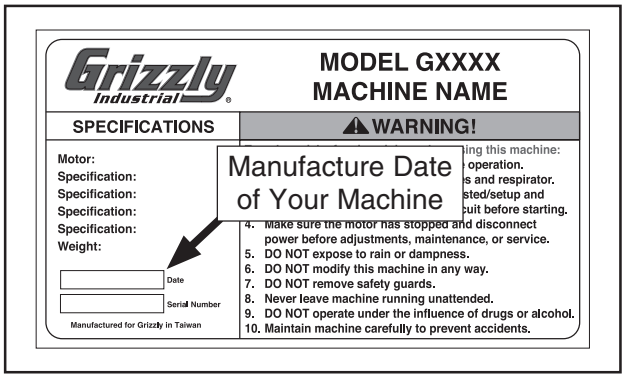
INTRODUCTION

Manual Accuracy

We are proud to offer this manual with your new machine! We've made every effort to be exact with the instructions, specifications, drawings, and photographs of the machine we used when writing this manual. However, sometimes errors do happen and we apologize for them.

Also, owing to our policy of continuous improvement, **your machine may not exactly match the manual**. If you find this to be the case, and the difference between the manual and machine leaves you in doubt, check our website for the latest manual update or call technical support for help.

Before calling, find the manufacture date of your machine by looking at the date stamped into the machine ID label (see below). This will help us determine if the manual version you received matches the manufacture date of your machine.



For your convenience, we post all available manuals and manual updates for free on our website at **www.grizzly.com**. Any updates to your model of machine will be reflected in these documents as soon as they are complete.

Contact Info

We stand behind our machines. If you have any service questions, parts requests or general questions about the machine, please call or write us at the location listed below.

Grizzly Industrial, Inc.
1203 Lycoming Mall Circle
Muncy, PA 17756
Phone: (570) 546-9663
Fax: (800) 438-5901
E-Mail: techsupport@grizzly.com

If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
C/O Technical Documentation Manager
P.O. Box 2069
Bellingham, WA 98227-2069
Email: manuals@grizzly.com

NOTICE

If you have never used this type of machine or equipment before, WE STRONGLY RECOMMEND that you read books, review industry trade magazines, or get formal training before beginning any projects. Regardless of the content in this section, Grizzly Industrial will not be held liable for accidents caused by lack of training.

Identification

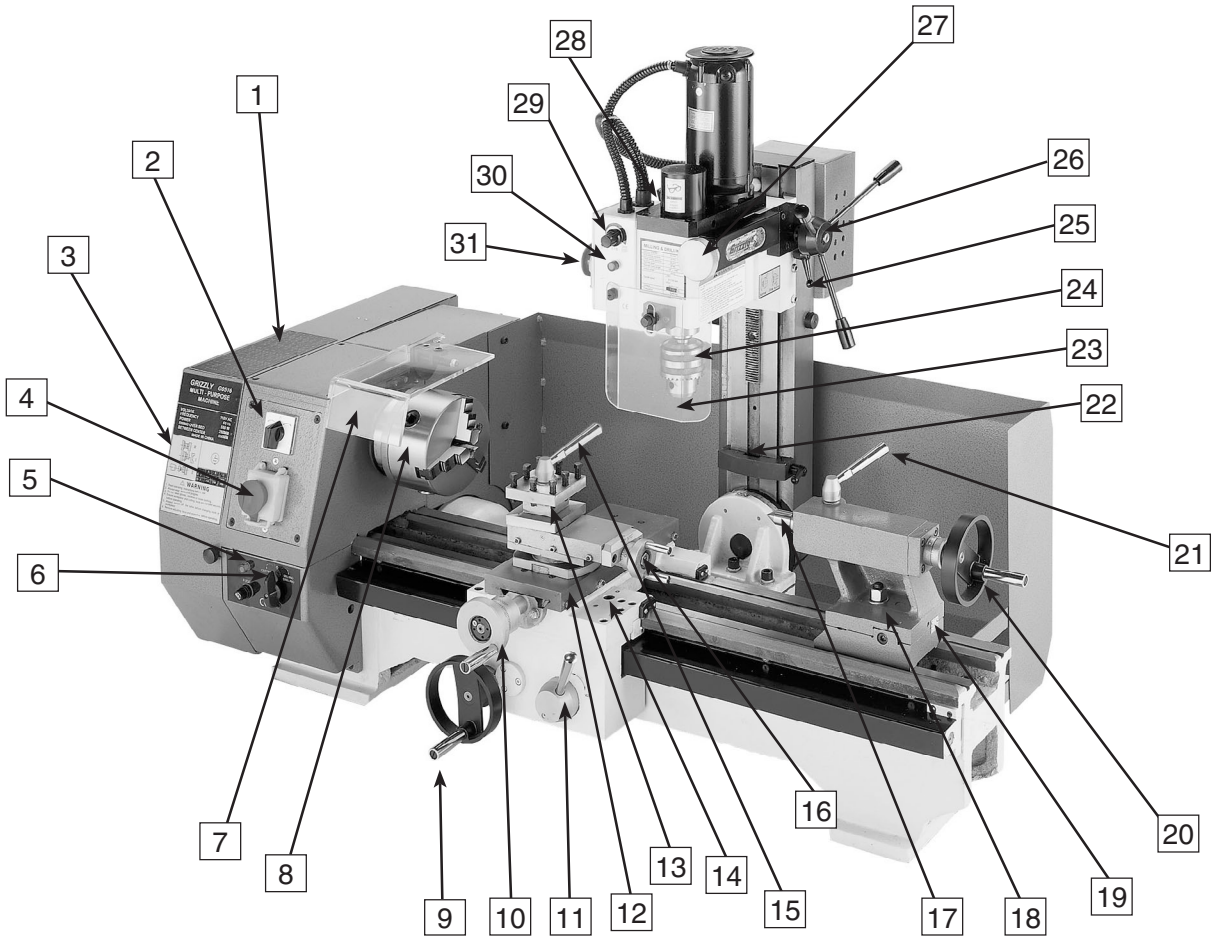


Figure 1. The following is a list of controls and components on the Model G0516. Please take time to become familiar with each term and its location. These terms will be used throughout the manual and knowing them is essential to understanding the instructions and terminology used in this manual.

1. Thread Pitch Gearing & Speed Charts
2. Lathe Forward/Reverse Switch
3. Machine ID/Safety Label
4. Lathe ON/OFF, Emergency Stop Switch
5. Lathe Power Indicator Light
6. Lathe/Mill Selector Switch
7. Headstock Eyeshield
8. Lathe Chuck
9. Carriage Feed Handwheel
10. Cross Slide Handwheel
11. Automatic Carriage Feed Lever
12. Cross Slide
13. Tool Post
14. Carriage Lock
15. Tool Post Lock Handle
16. Compound Slide Handwheel
17. Tailstock Center
18. Tailstock Clamp Bolt
19. Tailstock Axis Alignment Indicator
20. Tailstock Barrel Handwheel
21. Tailstock Center Lock
22. Mill Depth Stop
23. Mill/Drill Eyeshield
24. Drill Chuck
25. Mill/Drill Elevation Lock
26. Mill/Drill Coarse Downfeed Handle
27. Mill/Drill Head Fine Downfeed Knob
28. Mill/Drill High/Low Speed Selection Lever
29. Mill/Drill Variable Speed Adjustment Knob
30. Mill/Drill Power Indicator Light
31. Mill/Drill ON/OFF, Emergency Stop Switch

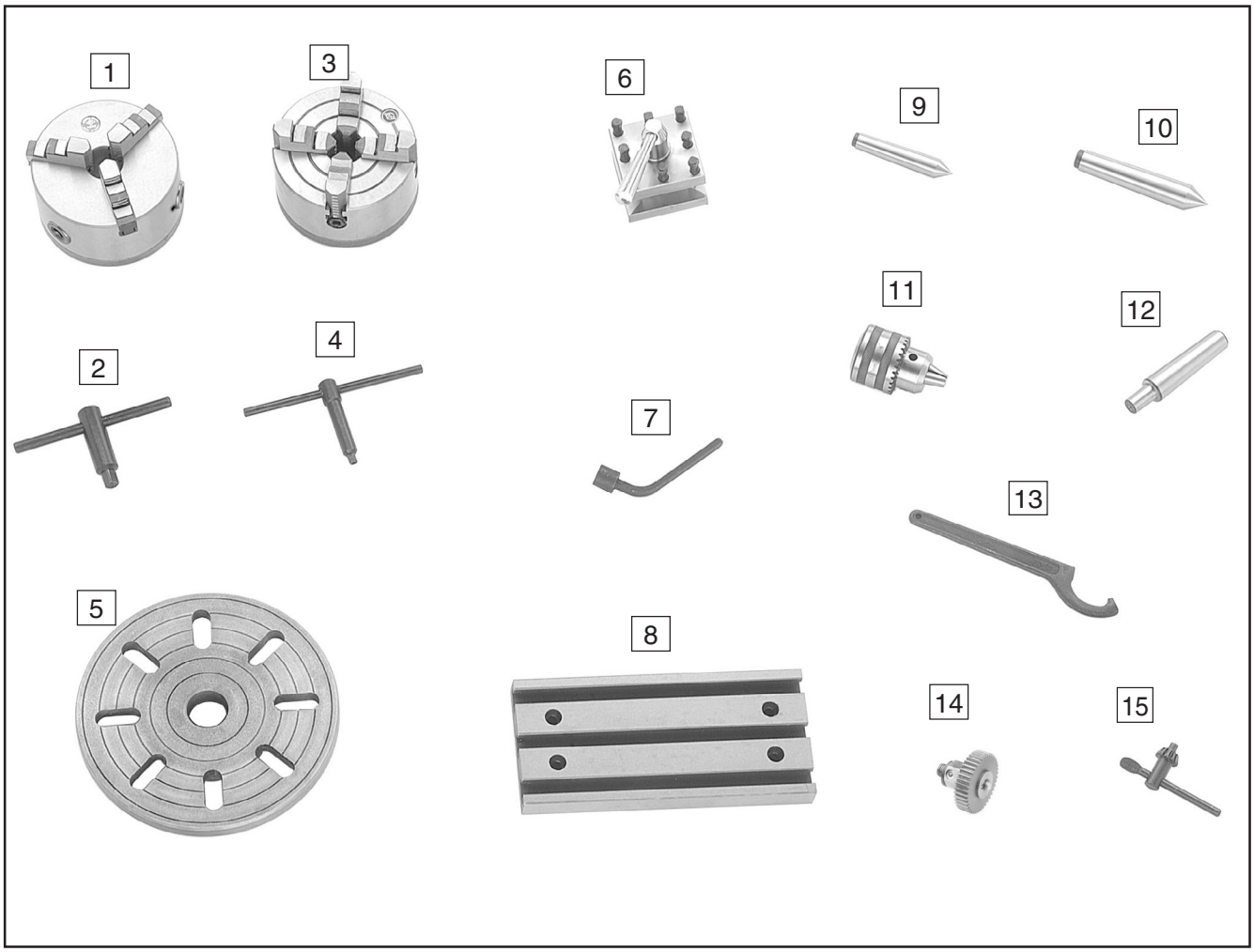


Figure 2. The picture above shows important accessories and tools that are included with the Model G0516. Please take some time to identify these items. Similar to the components and controls in **Figure 1**, these items are mentioned throughout the manual and knowing them is essential to understanding the instructions and terminology used in this manual.

1. 3-Jaw Chuck
2. 3-Jaw Chuck Key
3. 4-Jaw Chuck
4. 4-Jaw Chuck Key
5. Faceplate
6. Turret Tool Post
7. Toolpost Wrench
8. Milling Table
9. Tailstock Dead Center
10. Headstock Dead Center
11. Drill Chuck
12. Drill Chuck Arbor
13. Spanner Wrench
14. Fixed-Shaft Gear 40T
15. Drill Chuck Key

MACHINE DATA SHEET

Customer Service #: (570) 546-9663 · To Order Call: (800) 523-4777 · Fax #: (800) 438-5901

MODEL G0516 COMBO LATHE W/ MILLING ATTACHMENT

Product Dimensions:

Weight..... 397 lbs.
Length/Width/Height..... 44 x 23 x 34 in.
Foot Print (Length/Width)..... 43 x 16-1/2 in.

Shipping Dimensions:

Carton #1

Type..... Wood Crate
Content..... Machine
Weight..... 450 lbs.
Length/Width/Height..... 47 x 26 x 23 in.

Carton #2

Type..... Wood Crate
Content..... Attachment
Weight..... 129 lbs.
Length/Width/Height..... 17 x 30 x 20 in.

Electrical:

Switch..... Lathe: Forward/Reverse with Emergency Stop, Mill: Emergency Stop
Switch Voltage..... 110V
Cord Length..... 6 ft.
Cord Gauge..... 18 gauge
Minimum Circuit Size..... 10 amp
Plug Included..... Yes

Motors:

Mill

Type..... DC Motor
Horsepower..... 4/5 HP
Voltage..... 110V
Prewired..... 110V
Phase..... Single
Amps..... 6A
Speed..... 6000 RPM
Cycle..... 60 Hz
Number Of Speeds..... 1
Power Transfer ..... Gear
Bearings..... Sealed

Lathe

Type	TEFC Capacitor Start Induction
Horsepower	3/4 HP
Voltage	110V
Prewired	110V
Phase	Single
Amps	9A
Speed	1725 RPM
Cycle	60 Hz
Number Of Speeds	1
Power Transfer	Gear
Bearings	Sealed

Other Specifications:

Country Of Origin	China
Warranty	1 Year
Serial Number Location	Front Left Belt Change Cover

Features:

See Thru Eye Shield
Mill Head has Tilting Column
Quick Change Lathe Spindle
Cross Slide Table Included

Accessories Included:

1/2" Drill Chuck with Arbor
12 Change Gears
2 Dead Centers
4-Way Turret Tool Post
5" 3-Jaw Chuck
5" 4-Jaw Chuck
8-1/2" Face Plate
Quick Change Collet Set
Quick Change Tool Post

SECTION 1: SAFETY

⚠WARNING

For Your Own Safety, Read Instruction Manual Before Operating this Machine

The purpose of safety symbols is to attract your attention to possible hazardous conditions. This manual uses a series of symbols and signal words intended to convey the level of importance of the safety messages. The progression of symbols is described below. Remember that safety messages by themselves do not eliminate danger and are not a substitute for proper accident prevention measures.

⚠DANGER **Indicates an imminently hazardous situation which, if not avoided, WILL result in death or serious injury.**

⚠WARNING **Indicates a potentially hazardous situation which, if not avoided, COULD result in death or serious injury.**

⚠CAUTION **Indicates a potentially hazardous situation which, if not avoided, MAY result in minor or moderate injury. It may also be used to alert against unsafe practices.**

NOTICE **This symbol is used to alert the user to useful information about proper operation of the machine.**

⚠WARNING

Safety Instructions for Machinery

1. **READ ENTIRE MANUAL BEFORE STARTING.** Operating machine before reading the manual greatly increases the risk of injury.
2. **ALWAYS USE ANSI APPROVED SAFETY GLASSES WHEN OPERATING MACHINERY.** Everyday eyeglasses only have impact resistant lenses—they are NOT safety glasses.
3. **ALWAYS WEAR A NIOSH APPROVED RESPIRATOR WHEN OPERATING MACHINERY THAT PRODUCES DUST.** Most types of dust (wood, metal, etc.) can cause severe respiratory illnesses.
4. **ALWAYS USE HEARING PROTECTION WHEN OPERATING MACHINERY.** Machinery noise can cause permanent hearing loss.
5. **WEAR PROPER APPAREL.** DO NOT wear loose clothing, gloves, neckties, rings, or jewelry that can catch in moving parts. Wear protective hair covering to contain long hair and wear non-slip footwear.
6. **NEVER OPERATE MACHINERY WHEN TIRED OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL.** Be mentally alert at all times when running machinery.

⚠WARNING
Safety Instructions for Machinery

7. **ONLY ALLOW TRAINED AND PROPERLY SUPERVISED PERSONNEL TO OPERATE MACHINERY.** Make sure operation instructions are safe and clearly understood.

8. **KEEP CHILDREN/VISITORS AWAY.** Keep all children and visitors away from machinery. When machine is not in use, disconnect it from power, lock it out, or disable the switch to make it difficult for unauthorized people to start the machine.

9. **UNATTENDED OPERATION.** Leaving machine unattended while its running greatly increases the risk of an accident or property damage. Turn machine ***OFF*** and allow all moving parts to come to a complete stop before walking away.

10. **DO NOT USE IN DANGEROUS ENVIRONMENTS.** DO NOT use machinery in damp, wet locations, or where any flammable or noxious fumes may exist.

11. **KEEP WORK AREA CLEAN AND WELL LIGHTED.** Clutter and dark shadows may cause accidents.

12. **USE A GROUNDED POWER SUPPLY RATED FOR THE MACHINE AMPERAGE.** Grounded cords minimize shock hazards. Operating machine on an incorrect size of circuit increases risk of fire.

13. **ALWAYS DISCONNECT FROM POWER SOURCE BEFORE SERVICING MACHINERY**. Make sure switch is in OFF position before reconnecting.

14. **MAINTAIN MACHINERY WITH CARE.** Keep blades sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.

15. **MAKE SURE GUARDS ARE IN PLACE AND WORK CORRECTLY BEFORE USING MACHINERY.**

16. **REMOVE CHUCK KEYS OR ADJUSTING TOOLS.** Make a habit of never leaving chuck keys or other adjustment tools in/on the machine—especially near spindles!

17. **DAMAGED MACHINERY.** Check for binding or misaligned parts, broken parts, loose bolts, other conditions that may impair machine operation. Always repair or replace damaged parts before operation.

18. **DO NOT FORCE MACHINERY.** Work at the speed for which the machine or accessory was designed.

19. **SECURE WORKPIECE.** Use clamps or a vise to hold the workpiece when practical. A secured workpiece protects your hands and frees both hands to operate the machine.

20. **DO NOT OVERREACH.** Maintain stability and balance at all times when operating machine.

21. **MANY MACHINES CAN EJECT WORKPIECES TOWARD OPERATOR.** Know and avoid conditions that cause the workpiece to "kickback."

22. **STABLE MACHINE.** Machines that move during operations greatly increase the risk of injury and loss of control. Verify machines are stable/secure and mobile bases (if used) are locked before starting.

23. **CERTAIN DUST MAY BE HAZARDOUS** to the respiratory systems of people and animals, especially fine dust. Be aware of the type of dust you are exposed to and always wear a respirator designed to filter that type of dust.

24. **EXPERIENCING DIFFICULTIES.** If at any time you are experiencing difficulties performing the intended operation, stop using the machine! Contact our Technical Support Department at (570) 546-9663.

⚠WARNING

Additional Safety For Lathe/Mills

1. **MAKE SURE ALL GUARDS** are in place and that the lathe/mill sits on a flat, stable surface.

2. **BEFORE STARTING THE LATHE/MILL** be certain the workpiece has been properly engaged in the chuck, tailstock, center, or vise (if in use) and that there is adequate clearance for full motion.

3. **ADJUST TOOL POST** to provide proper support for the turning tool you will be using. Test tool post clearance by rotating workpiece by hand before turning lathe on.

4. **SELECT THE TURNING SPEED** which is appropriate for the type of work, material, and tool bit. Allow the lathe or mill to gain its full speed before beginning a cut.

5. **NEVER REVERSE MOTOR DIRECTION** while the lathe/mill is in motion.

6. **DO NOT STOP LATHE USING YOUR HAND** against the workpiece or chuck.

7. **DO NOT LEAVE LATHE/MILL RUNNING UNATTENDED** for any reason.

8. **NEVER LEAVE A CHUCK KEY IN THE DRILL CHUCK OR LATHE CHUCK.**

9. **NEVER OPERATE THE LATHE/MILL WITH DAMAGED OR WORN PARTS.** Maintain your lathe/mill in proper working condition. Perform routine inspections and maintenance promptly when called for. Put away adjustment tools after use.

10. **MAKE SURE LATHE/MILL IS TURNED OFF**, disconnected from its power source and all moving parts have come to a complete stop before starting any inspection, adjustment, or maintenance procedure.

11. **KEEP LOOSE CLOTHING ARTICLES** such as sleeves, belts or jewelry items away from the lathe and drill spindles.

12. **ALWAYS USE THE PROPER CUTTING TOOLS** for the material you are turning, make certain they are sharp and that they are held firmly in the tool post.

13. **ALWAYS PLACE A BOARD OR PIECE OF PLYWOOD ACROSS THE BEDWAY** when removing or installing chucks to avoid the possibility of a finger pinch occurring between a loose chuck and the edges of the bedway.

⚠CAUTION

No list of safety guidelines can be complete. Every shop environment is different. Always consider safety first, as it applies to your individual working conditions. Use this and other machinery with caution and respect. Failure to do so could result in serious personal injury, damage to equipment or poor work results.

⚠WARNING

Like all power tools, there is danger associated with the Model G0516 Lathe/Mill. Accidents are frequently caused by lack of familiarity or failure to pay attention. Use this tool with respect and caution to lessen the possibility of operator injury. If normal safety precautions are overlooked or ignored, serious personal injury may occur.

SECTION 2: CIRCUIT REQUIREMENTS

110V Operation

⚠WARNING

Serious personal injury could occur if you connect the machine to power before completing the setup process. DO NOT connect the machine to the power until instructed later in this manual.

⚠WARNING

Electrocution or fire could result if machine is not grounded and installed in compliance with electrical codes. Compliance MUST be verified by a qualified electrician!

Full Load Amperage Draw

Motor Draw.....6 Amps

Circuit Requirements

You MUST connect your machine to a grounded circuit that is rated for the amperage given below. Never replace a circuit breaker on an existing circuit with one of higher amperage without consulting a qualified electrician to ensure compliance with wiring codes. **If you are unsure about the wiring codes in your area or you plan to connect your machine to a shared circuit, consult a qualified electrician.**

Recommended Circuit Size.....15 Amps

Power Connection Device

The Model G0516 comes with a 5-15 plug, similar to **Figure 3**, to connect the machine to power.

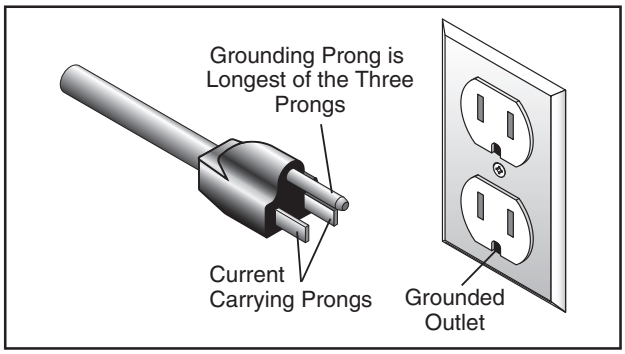
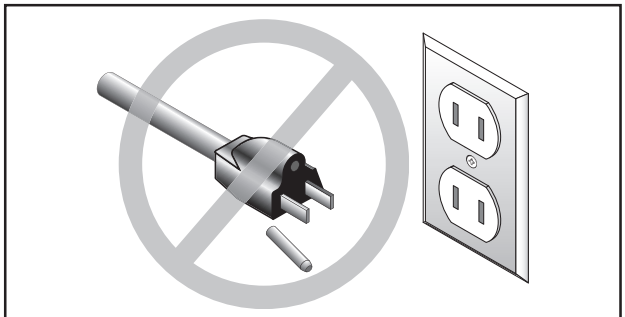


Figure 3. Typical 5-15 plug and receptacle.



⚠CAUTION

This machine MUST have a ground prong in the plug to help ensure that it is grounded. DO NOT remove ground prong from plug to fit into a two-pronged outlet! If the plug will not fit the outlet, have the proper outlet installed by a qualified electrician.

Extension Cords

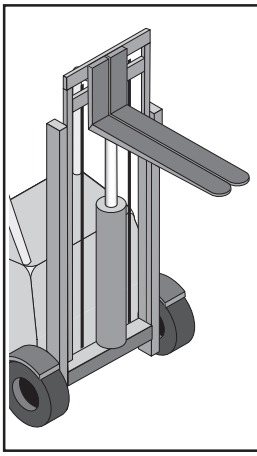
We do not recommend using extension cords, but if you find it absolutely necessary:

- Use at least a 16 gauge cord that does not exceed 50 feet in length!
- The extension cord must have a ground wire and plug pin.
- A qualified electrician MUST size cords over 50 feet long to prevent motor damage.

SECTION 3: SETUP

Unpacking

This combination lathe/mill is shipped from the manufacturer in a carefully packed crate. If you discover the machine is damaged after you've signed for delivery, and the truck and driver are gone, you will need to file a freight claim with the carrier. Save the containers and all packing materials for possible inspection by the carrier or its agent. Without the packing materials, filing a freight claim can be difficult. If you need assistance determining whether you need to file a freight claim, or with the procedure to file one, please contact our Customer Service.



⚠WARNING

The Model G0516 is a heavy machine, 420 lbs. shipping weight. DO NOT move the machine by yourself – you will need assistance and power equipment. Serious personal injury may occur if safe moving methods are not followed.

⚠CAUTION

Some metal parts may have sharp edges on them after they are formed. Please examine the edges of all metal parts before handling them. Failure to do so could result in injury.

When you are completely satisfied with the condition of your shipment, you should inventory its parts.

Piece Inventory

Inside the crate you will find:

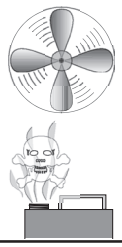
- Model G0516 Lathe Unit.....1
- Mill/Drill Unit 1
- Mill Chuck Collet Set.....1
- Faceplate Set.....1
- 4-Jaw Chuck Set 1
- Tool Post Changer Set 1
- Milling Vise Set 1
- Mill/Drill Table 1
- Carriage Handle & Screw 1
- Apron Handle & Screw 1
- Locking Lever 1
- Milling Machine Power Cord.....1
- Eyeshield 1
- Hex Wrenches 3, 4, 5, 6, 8mm.....1 Each
- Gears 70T.....2
- Gears 75, 72, 68, 66, 65, 60T .....1 Each
- Gears 50, 48, 45, 40T .....1 Each
- Fixed-Shaft Gear 40T 1
- 3-Jaw Lathe Chuck Key.....1
- Drill Chuck Key 1
- Combo Wrench 5.5/7, 8/10mm.....1 Each
- Combo Wrench 12/14, 17/19mm.....1 Each
- Wrench 36mm 1
- 3 Outside Jaws 1
- Dead Center MT#2, MT#3.....1 Each
- Spanner Wrench 45-52 1
- Toolpost Wrench.....1
- Oil Bottle 1
- T-Nuts 2
- Cap Screws M8-1.25 x 25 4
- Mill/Drill Fuse 110V/5A 1
- Lathe Fuse 110V/25A.....1
- V-Belt 1
- Cog Belt 1

Clean Up

The unpainted surfaces are coated with a waxy oil to prevent corrosion during shipment. Remove this protective coating with a solvent cleaner or degreaser, such as shown in **Figure 4**. For thorough cleaning, some parts must be removed. **For optimum performance, clean all moving parts or sliding contact surfaces.** Avoid chlorine-based solvents, such as acetone or brake parts cleaner that may damage painted surfaces. Always follow the manufacturer's instructions when using any type of cleaning product.

⚠WARNING

Gasoline and petroleum products have low flash points and can explode or cause fire if used to clean machinery. DO NOT use these products to clean the machinery.



⚠CAUTION

Many cleaning solvents are toxic if inhaled. Minimize your risk by only using these products in a well ventilated area.

G2544—Solvent Cleaner & Degreaser
H9692—Orange Power Degreaser
Great products for removing shipping grease.

Figure 4. Cleaner/degreasers available from Grizzly.

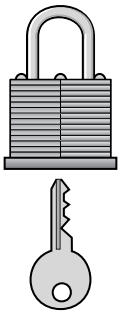
Site Considerations

Floor Load

Refer to the Machine Data Sheet for the weight and footprint specifications of your machine. Some residential floors may require additional reinforcement to support both the machine and operator.

Placement Location

Consider existing and anticipated needs, size of material to be processed through each machine, and space for auxiliary stands, work tables or other machinery when establishing a location for your new machine.

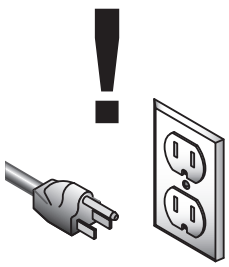


⚠CAUTION

Children and visitors may be seriously injured if unsupervised around this machine. Lock entrances to the shop or disable start switch or power connection to prevent unsupervised use.

Beginning Assembly

This section will cover the minimum assembly and adjustment instructions needed to begin operation. For best results, complete the assembly in the order provided in this manual and then read the remaining portion of the manual before attempting any type of operations.



⚠WARNING

Do not connect the machine to power at this time. The machine must remain unplugged throughout the entire assembly process. Failure to do this may result in serious personal injury.

Attach Mill/Drill to Lathe

To attach the mill/drill unit to the lathe body:

1. Get the help of an assistant.

2. Locate the included nut that fits on the large bolt in the mounting bracket, so you have it ready for the next step.

3. Place the bottom end of the mill/drill unit over the mounting bolt and up against the mounting bracket, then have your assistant thread the nut onto the bolt as shown in **Figure 5**—but DO NOT tighten the nut yet.

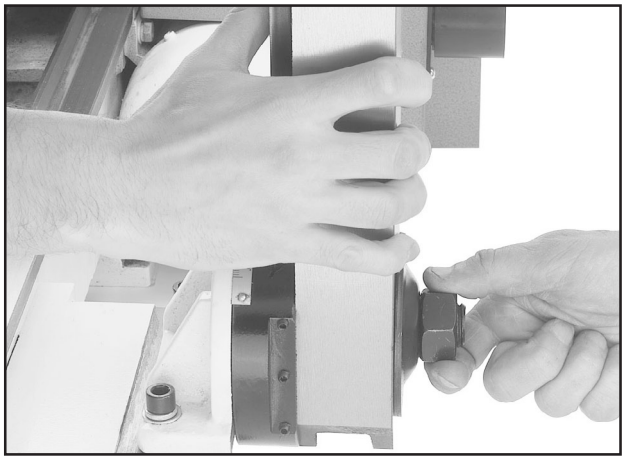


Figure 5. Threading nut onto bolt with mill/drill unit in place against mounting bracket.

4. Align the indicator on the mounting bracket with the "0" line on the mill/drill swivel scale, as shown in **Figure 6**.

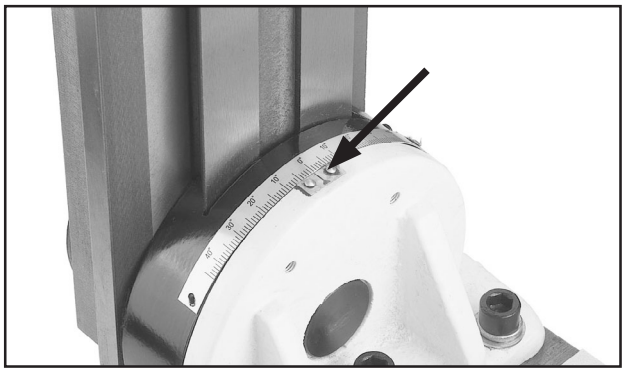


Figure 6. Mill/drill swivel scale aligned with hub indicator line in the "0" position.

5. Now, tighten the large nut that attaches the mill/drill unit to the lathe hub bracket.

Install Belts

Before the lathe can be test run, the V-belt and cogged belt must be installed on the pulleys/sprockets. Before the belts can be installed, the pulleys and sprocket must be cleaned of the shipping grease.

Install the V-belt and cogged belt as shown in **Figure 7**.

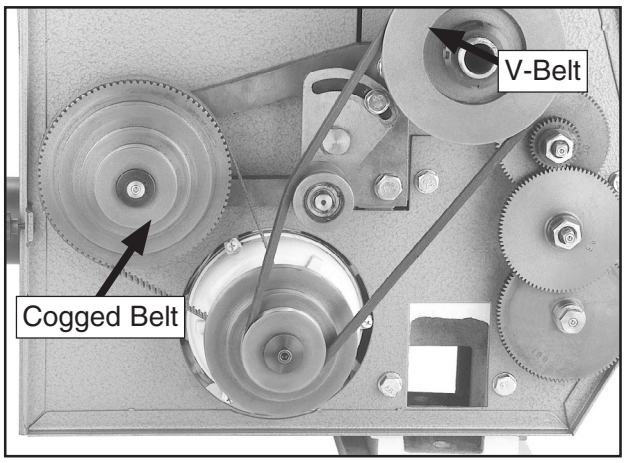


Figure 7. V-belt and cogged belt installed.

Mount Mill/Drill Eyeshield

To mount the mill/drill eyeshield:

1. Attach the eyeshield to the mill/drill with the knurled knob as in **Figure 8**.

Note—You MUST install the eyeshield. Also, during operations, the eyeshield provides the best protection when it is positioned down as far as it will go.

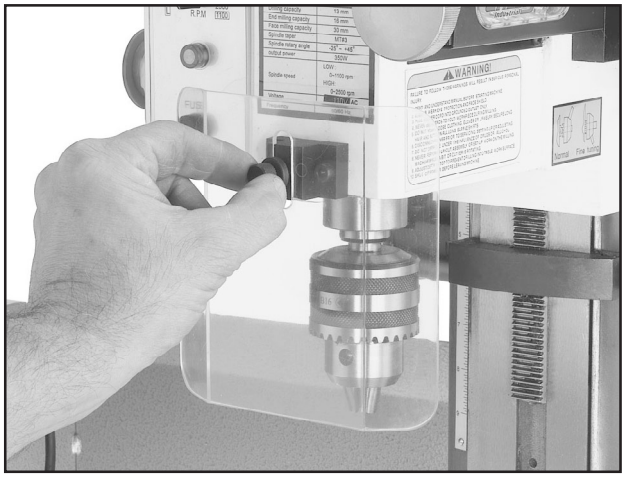


Figure 8. Attaching eyeshield to the mill/drill head.

Mount Lathe Eyeshield

To mount the lathe eyeshield:

1. Attach the eyeshield, as shown in **Figure 9**, with the two screws that are already in the bracket.

Note—You MUST install the eyeshield. Also, during operations, the eyeshield provides the best protection when it is positioned downward.

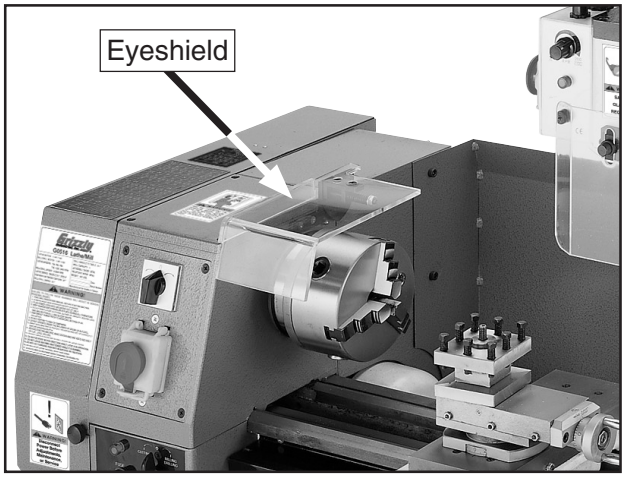


Figure 9. Eyeshield attached to lathe.

Test Run Lathe

Before continuing to *Section 6: Operations*, test run the lathe to make sure it runs properly.

To test run the lathe:

1. Make sure that there is NOT a chuck key inserted in the chuck, and that the lathe eyeshield is in the down position over the lathe chuck. *Make this step a habit that you perform every time you start the lathe.*

2. Familiarize yourself with the lathe controls shown in **Figure 10**. Make sure the STOP button is all the way down before continuing.

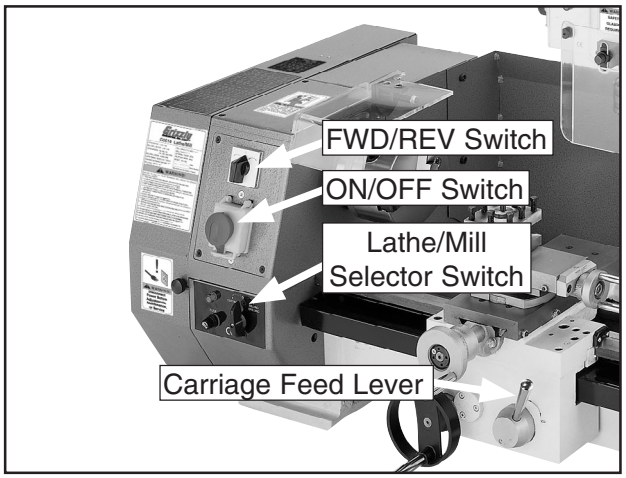


Figure 10. Lathe controls.

3. Plug the machine into the power outlet!

4. Move the carriage feed lever up to the disengage mode. It is important that the carriage feed is NOT moving and is in the neutral position until later.

5. Turn the Lathe/Mill selector switch to the "LATHE" position. The lathe power indicator light should light up. Note—*If it is does not light up, unplug the machine and check the fuse, your power source, and the connections on the machine before attempting to start the lathe. Call our Tech Support if you cannot easily resolve the issue.*

6. Flip up the red button cover on the ON/OFF switch.

7. Turn the FWD/REV switch to FWD.

8. Stand to the side of the lathe chuck line of rotation, and press the green button to turn the lathe *ON*. If the carriage starts moving, immediately push the OFF button and disengage the carriage feed lever, then restart the lathe.

9. Allow the lathe to run for at least two full minutes to make sure it is running satisfactorily.

10. Press the OFF button to turn the lathe *OFF*.

11. After the lathe chuck has come to a complete stop, turn the FWD/REV switch to REV.

12. Stand to the side of the lathe chuck line of rotation, and press the ON button to turn the lathe *ON*.

13. Allow the lathe to run for at least two full minutes to make sure it is running satisfactorily.

14. Press the OFF button to turn the lathe *OFF*.

15. After the lathe has come to a complete stop, engage the carriage handwheel, rotate the handwheel to center the carriage on the bed, then disengage the handwheel.

16. Engage the automatic carriage feed lever.

17. Stand to the side of the lathe chuck line of rotation, and press the ON button to turn the lathe *ON*.

18. Verify that the carriage moves along the bed, and press the OFF button to turn the lathe *OFF*.

Test Run Mill/Drill

Before continuing to the Operations section, test run the mill/drill to verify that it runs properly.

To test run the mill/drill:

1. Make sure that the factory installed drill chuck is tight, that there is not a chuck key in the chuck, and that the eyeshield is firmly mounted between you and the drill chuck. *Make this step a habit that you perform every time you start the lathe.*

2. Plug the machine into the power outlet.

3. Familiarize yourself with the mill/drill controls shown in **Figures 11 and 12**.

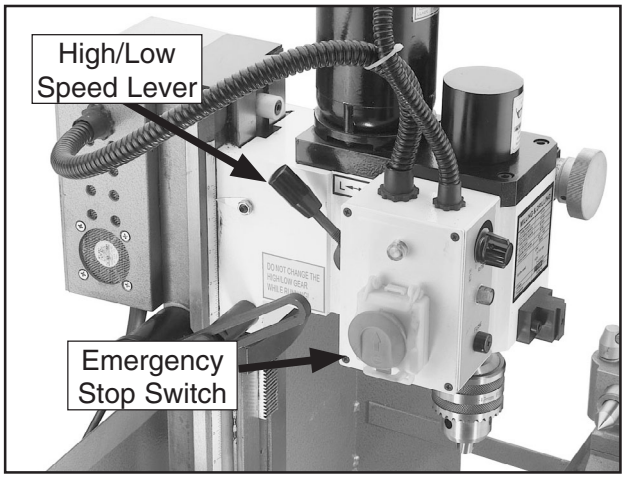


Figure 11. Mill/drill controls.

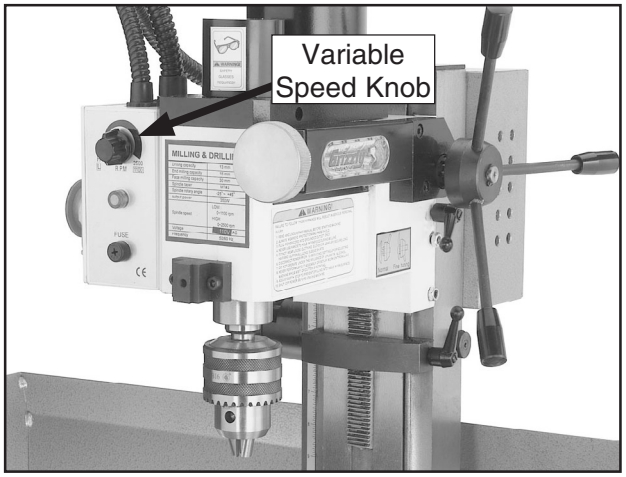


Figure 12. Mill/drill controls.

4. Rotate the Lathe/Mill selector switch to the "MILL" position, and turn the FWD/REV switch to the FWD position.

5. Move the high/low speed lever to the "L" position for low speed, then make sure the variable speed knob is rotated all the way counterclockwise.

6. Unlatch mill/drill ON/OFF switch cover—this should make the mill/drill power indicator light up—and push the ON button.

7. Rotate the variable speed knob clockwise to turn the mill/drill spindle *ON*. The farther you rotate the variable speed knob, the faster the mill/drill spindle will rotate.

8. Rotate the variable speed dial clockwise as far as it will go, so the drill chuck is spinning at top speed.

9. Rotate the variable speed dial counterclockwise as far as it will go. *This should stop the drill chuck.*

10. Press the mill/drill OFF button to turn the mill/drill *OFF*.

11. Move the high/low speed lever to the "H" position for high speed, then make sure the variable speed knob is rotated all the way counterclockwise.

12. Unlatch the mill/drill ON/OFF switch cover—this should make the mill/drill power indicator light up—and push the ON button.

13. Rotate the variable speed knob clockwise to turn the mill/drill spindle *ON*. The farther you rotate the variable speed knob, the faster the mill/drill spindle will rotate.

14. Rotate the variable speed dial clockwise as far as it will go, so the drill chuck is spinning at top speed.

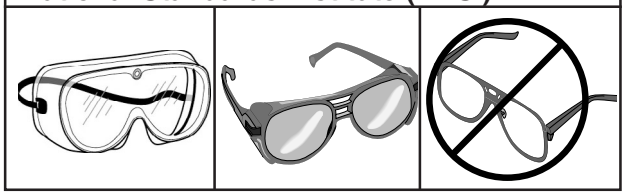
15. Rotate the variable speed dial counterclockwise as far as it will go. *This should stop the drill chuck.*

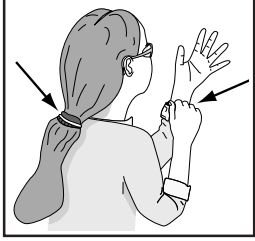
16. Press the mill/drill OFF button to turn the mill/drill *OFF*.

SECTION 4: LATHE OPERATIONS

⚠WARNING

Operating this equipment has the potential for flying debris to cause eye injury. Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses only have impact resistant lenses, they are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).





⚠WARNING

Keep loose clothing out of the way of machinery and keep hair pulled back during operations.

⚠WARNING

Never leave a chuck key in the chuck when it is not in use. If the machine is accidentally started, the chuck key can become a projectile and cause serious personal injury.

NOTICE

The following section was designed to give instructions on how to prepare the various items of your *LATHE* during operation procedures; however, this section is in no way designed to instruct on lathe techniques or machining skills. WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training to gain the skills needed to operate the lathe portion of your machine.

Lathe

To get the most out of your machine, please take the time to familiarize yourself with the various controls and components of the mill/drill, as shown in **Figures 13** and **14**.

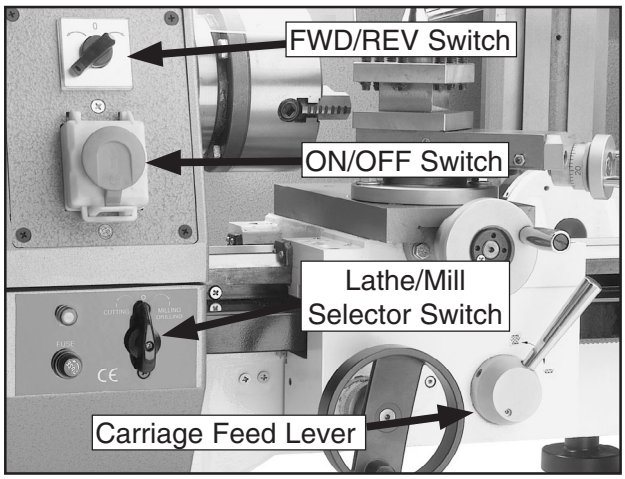


Figure 13. Lathe controls.

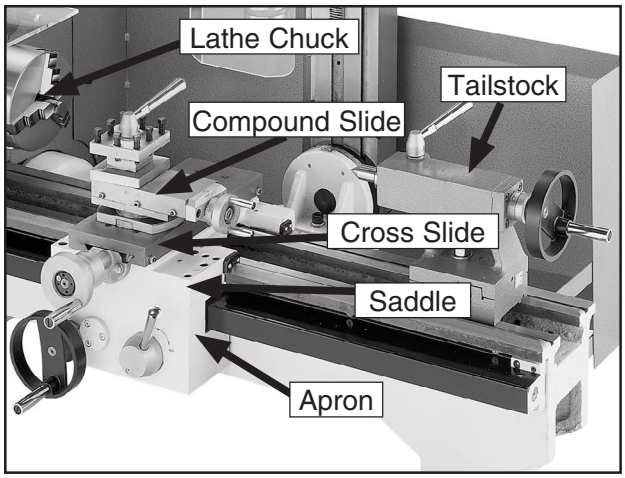


Figure 14. Lathe components.

Removing Chuck or Faceplate

The Model G0516 spindle nose mounting system uses a circular lock plate with slotted holes that are oversized at one end (keyholes). When the lock plate is rotated counterclockwise (as facing the chuck), the chuck or faceplate studs with mounting nuts can pass through the spindle nose. When the lock plate is rotated toward the back of the lathe, the oversized holes narrow to the size of the studs, allowing the mounting nuts to be tightened against the back of the lock plate, thus, securing the chuck or faceplate.

To remove a chuck or faceplate from the lathe spindle nose:

1. **Disconnect the lathe/mill from the power source!**

2. Move the lathe eyeshield back and out of the way of the lathe chuck so you have access.

3. Familiarize yourself with the spindle nose components shown in **Figure 15**.

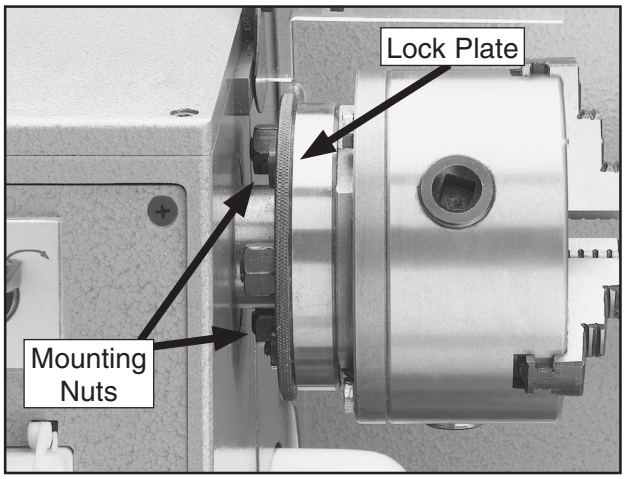
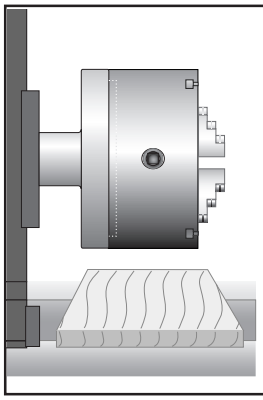


Figure 15. Spindle nose components.

4. Place a piece of plywood over the bed-ways to protect your hands.



⚠CAUTION

ALWAYS place a piece of plywood over lathe bed-ways before removing or installing a lathe chuck. This covers the sharp corners of the bed, protecting your hands and fingers from a pinch injury.

5. Hold the chuck/faceplate with your hand or a chuck key, and using a 17mm wrench, loosen the 3 chuck mounting nuts on the back of the knurled lock plate. DO NOT back the nuts out all the way or they will scratch the metal cover when you rotate the lathe chuck.

6. Rotate the knurled lock plate toward the front of the lathe.

7. Remove the chuck/faceplate from the spindle nose by pulling it out (**Figure 16**). *Note-—the tolerances are tight, so you may need to wiggle the chuck/faceplate back-and-forth, rotate it ¼ of a turn, wiggle it, rotate it and continue repeating this process until the chuck comes out. Never use a pry bar or other similar tool to force the chuck/faceplate out!*

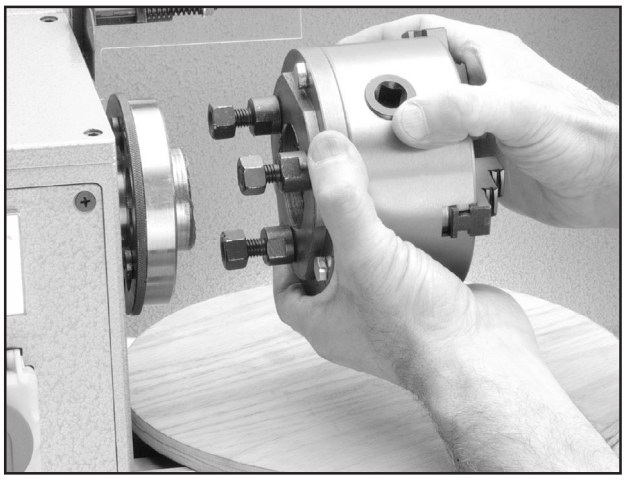


Figure 16. Removing lathe chuck.

Installing Chuck or Faceplate

To install a chuck/faceplate:

1. **Disconnect the lathe/mill from the power source!**

2. Insert the 3 mounting studs into the back of the chuck and tighten them down. If you are switching chucks, take the mounting studs out of the previously removed chuck and use them in the chuck you are going to install. Also, make sure that a chuck mounting nut is on each of the studs.

3. Make sure that the knurled lock plate is rotated all the way toward the front of the lathe.

4. Insert the chuck into the spindle nose.

5. Rotate the knurled lock plate toward the back of the lathe until it stops. If the lock plate will NOT rotate more than a fraction of an inch, then the chuck is not completely inserted. Make sure the chuck is completely inserted so the lock plate can be rotated properly.

6. Hold the chuck/faceplate with your hand or a key. Using a 17mm wrench, snug the 3 chuck mounting nuts to the back of the knurled lock plate, then final tighten all 3 with even pressure.

7. Remove all wrenches and chuck keys from the chuck/spindle nose.

8. Move the lathe eyeshield down over the chuck before operating.

Installing Tailstock Dead Center

There are 2 dead centers included with the Model G0516. The smaller dead center is a MT#2 (Morse Taper) and fits in the tailstock barrel.

To install the tailstock dead center:

1. Familiarize yourself with the tailstock components shown in **Figure 17**.

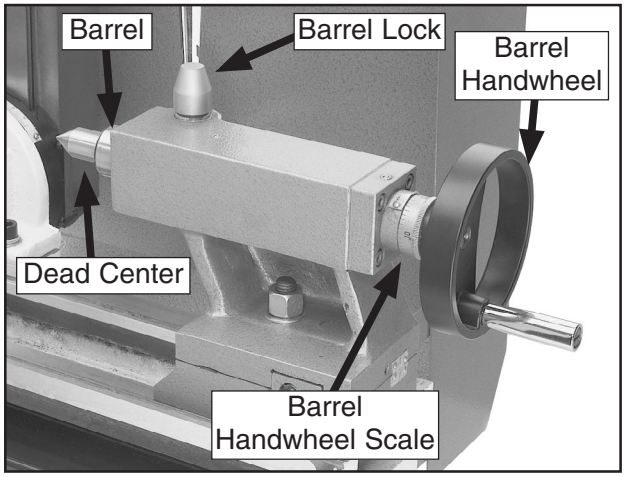


Figure 17. Tailstock components.

2. Make sure that the MT#2 dead center and tailstock barrel are clean and free of any dirt, dust, grease or oil. These parts will last longer and remain accurate when properly cleaned before each assembly. Morse tapers will not interlock when dirt or oil are present on the mounting surfaces.

3. Insert the end of the dead center into the tailstock barrel, as shown in **Figure 18**, until it seats tight enough that it will not rotate when turned by hand. *Note—do not worry about pushing the dead center into the barrel too far. The force of the center contacting a mounted workpiece will fully seat the taper when the handwheel is tightened.*

4. Tighten the barrel lock to prevent the tailstock barrel from moving during operation.

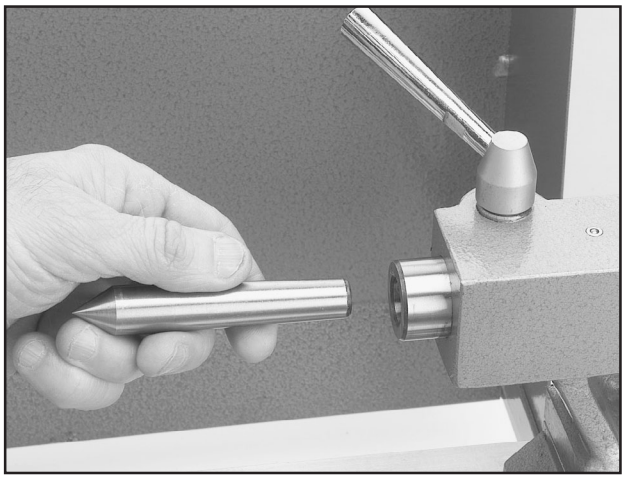


Figure 18. Inserting dead center into tailstock barrel.

Removing Tailstock Dead Center

To remove the tailstock dead center:

1. Use the barrel handwheel to move the tailstock barrel all the way back into the tailstock until the handwheel will no longer turn.

2. Pull the dead center out of the tailstock barrel.

Adjusting Tailstock Longitude Position

The tailstock on the Model G0516 clamps to the bed with the nut shown in **Figure 19**. This nut allows the tailstock to be positioned longitudinally along the bed and then locked in place.

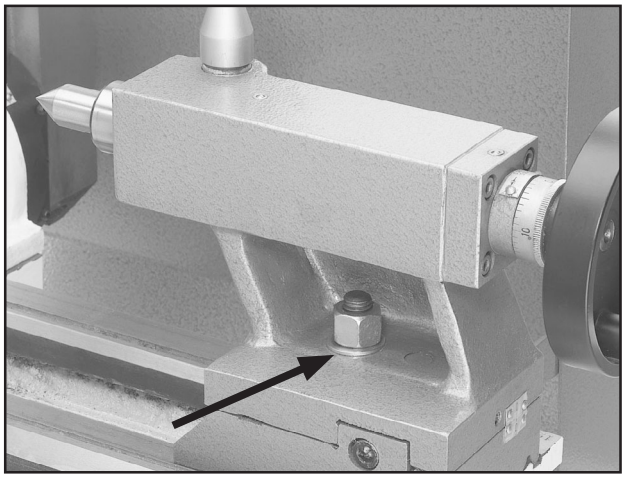


Figure 19. Tailstock clamp bolt.

To adjust the tailstock longitude position:

1. Use a 17mm wrench to loosen the tailstock clamp bolt.

2. With your hands, move the tailstock into position along the bed.

3. Tighten the tailstock clamp bolt to secure the tailstock into position.

Changing Tool Posts

The Model G0516 comes with a turret tool post. Grizzly also offers quick change tool post as an optional accessory to the Model G0516. Both tool posts can be removed and replaced in the same manner.

To change a tool post from the compound rest:

1. Rotate the tool post lock handle counter-clockwise to remove it as in **Figure 20**.

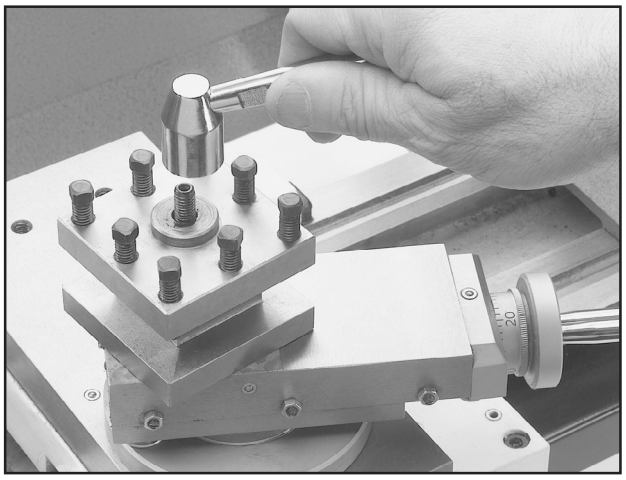


Figure 20. Removing tool post lock handle.

2. Pull the installed tool post straight up to remove it from the compound slide, as shown in **Figure 21**.

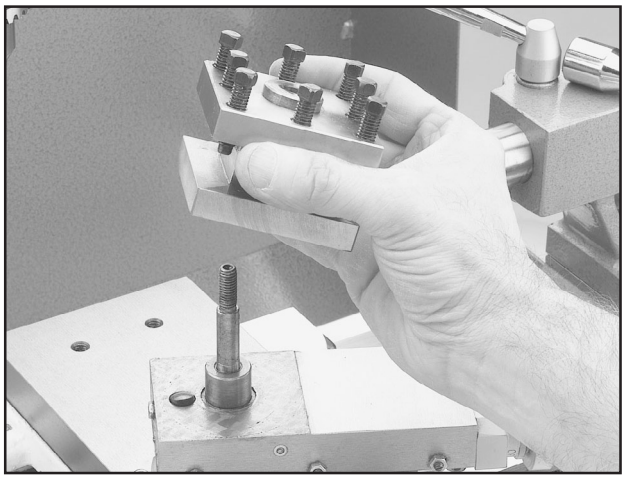


Figure 21. Removing tool post.

3. Replace the new tool post on the compound slide.

4. Position the tool post to its intended working angle.

5. Replace the tool post lock handle and tighten it to keep the tool post secured in place. **Figure 22** shows the quick change tool post installed.

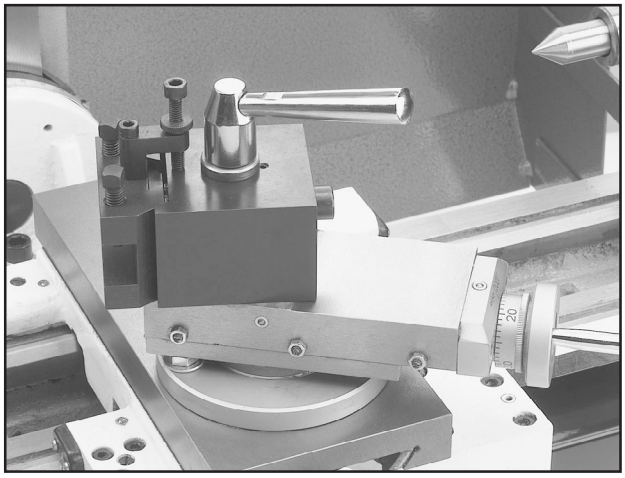


Figure 22. Optional quick change tool post installed.

Adjusting Cross Slide

The cross slide is only designed to move perpendicular to the longitudinal axis of the lathe, and it features a scale on the handwheel that displays graduations of one thousandths of an inch (.001").

To adjust the cross slide:

1. Using the handwheel, back the cross slide away from your starting point by at least .015", then move the cross slide forward to your starting point. *Note—this procedure will clear any free movement (or backlash) in the lead screw so your handwheel scale reading will be accurate.*

2. Hold the handwheel still and turn the scale so the "0" mark lines up with the ".000" mark on the cross slide, as shown in **Figure 23**. As long as you avoid backlash by continuing to move the cross slide in the same direction, the scale on the handwheel will be accurate.

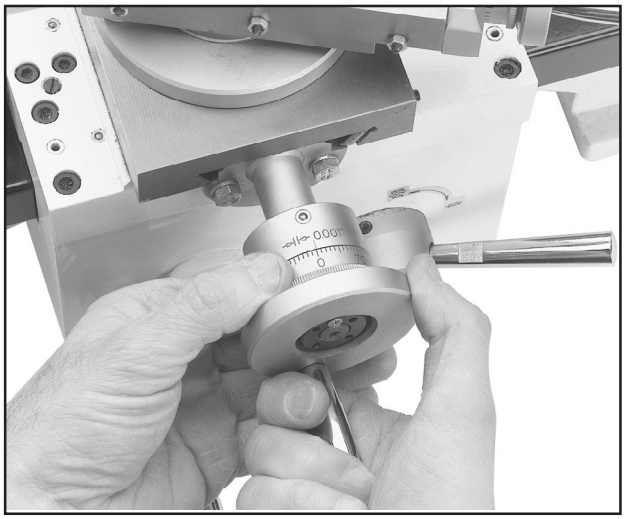


Figure 23. Adjusting handwheel scale.

3. After moving the cross slide backward after your operation, remember to clear the backlash before moving the cross slide forward to the "0" mark for the next cut.

Adjusting Compound Slide

Similar to the cross slide, the compound slide features a scale that displays graduations of one thousandths of an inch (.001"). Unlike the cross slide, the compound slide can be rotated to a set angle and then it can be moved back and forth along the axis of that angle.

To adjust the compound slide:

1. Loosen the compound slide bolts shown in **Figure 24** to allow it to be rotated.

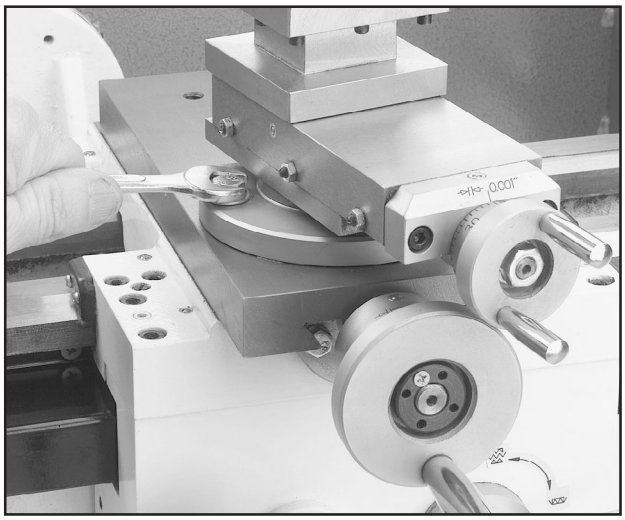


Figure 24. Compound slide bolts.

2. Rotate the compound slide to the angle needed for your procedure.

3. Tighten the compound slide bolts, and check the angle again to make sure it did not move during tightening.

4. Use the compound slide handwheel to move the tool back and forth along the axis of the new angle. Similar to adjusting the cross slide handwheel, make sure the threads are engaging and all backlash has been cleared before you set the handwheel scale to "0", or it will not be accurate.

Adjusting Carriage

Like most lathes, the longitudinal movement of the carriage (carriage feed) on the Model G0516 can be controlled both manually and automatically. Before proceeding, take a closer look at the carriage controls shown in **Figure 25**.

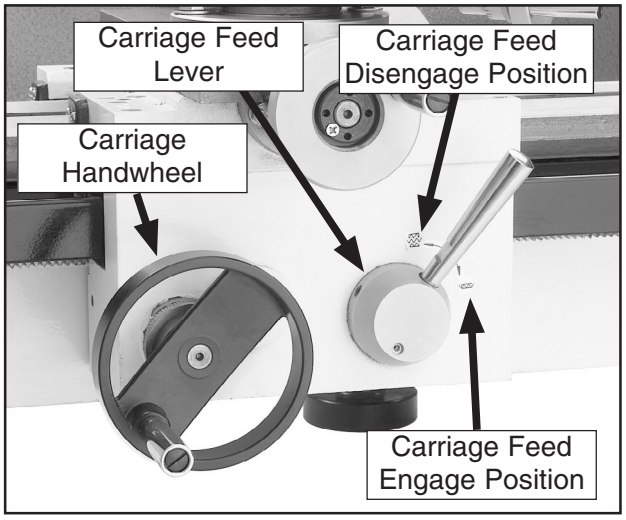


Figure 25. Carriage controls.

To move the carriage feed manually:

1. Push the carriage feed handwheel toward the carriage to engage the gear on the lead screw.

2. Rotate the handwheel clockwise to move the carriage right and rotate the handwheel counterclockwise to move the carriage left.

3. Set the handwheel scale in the same manner as described in the “Adjusting Cross Slide” instructions, and be sure to account for the backlash.

To use the automatic carriage feed:

1. Select the desired feed rate you need by looking at the charts on the lathe drive cover. When new, Model G0516 is geared for a carriage feed rate of .005" per revolution.

   Use the manual feed handwheel to position the carriage to your desired starting point and set the scale on the handwheel to “0”.

2. Move the carriage feed lever down to engage the half-nut, which in turn, makes the automatic carriage feed active.

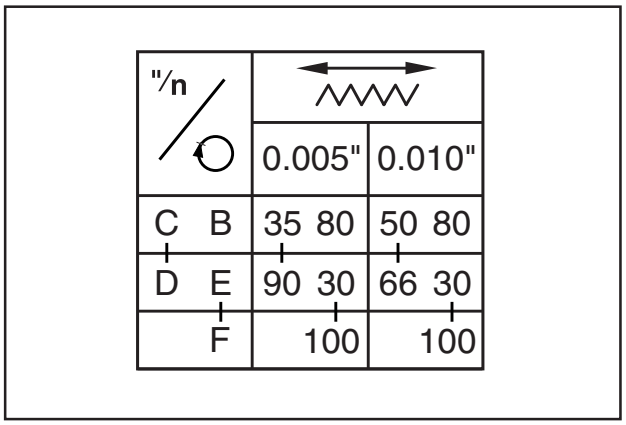
3. Pull out the carriage manual feed handwheel to unlock it so it does not rotate when the automatic carriage feed is engaged.

The carriage feed will now move forward or backward, depending on which direction you have selected for lathe rotation.

Understanding Gear Charts

The Model G0516 can be geared for a variety of different feed rates, so charts are placed on the drive cover of the lathe that explain how to set up the gear combinations for each type of carriage feed application. These applications are broken into two categories of charts—turning and threading.

Turning Chart—The speeds given on the turning chart represent standard speeds for most types of turning applications. See **Figure 26**.



"/n	0.005"	0.010"
C B	35 80	50 80
D E	90 30	66 30
F	100	100

Figure 26. Turning chart.

Threading Charts—By arranging the gears as shown on the charts, you can set up the carriage feed to cut any of the thread pitches displayed. See **Figure 27**.

1"/n	8	9	10	11	12	14
B	80	90	70	70	70	70
D E	75 40	60 40	72 40	72 40	72	60 40
F ⇌	50	45	60	66	40	70

1"/n	16	18	20	24	32	40
B	70	70	70	70	70	70
D E	60 40	60 80	60 80	50 40	45 80	30 40
F	80	45	50	100	60	100

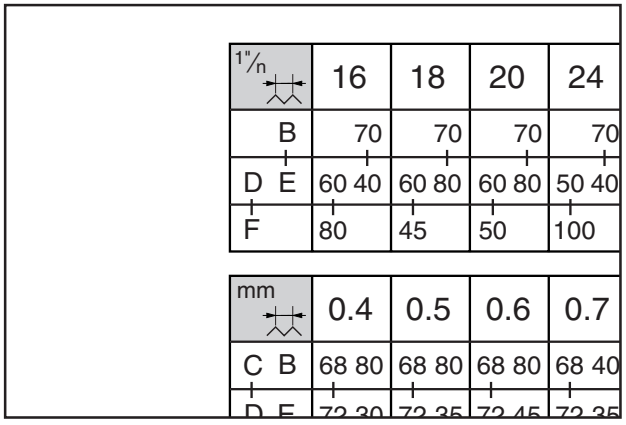
mm	0.4	0.5	0.6	0.7	0.8	1
C B	68 80	68 80	68 80	72 80	68 80	68 80
D E	72 30	72 35	72 45	75 48	72 48	60
⇌ F	75	70	75	70	60	72

mm	1.25	1.5	1.75	2	2.5	3
C B	68 72	75 72	68 72	68 72	66 75	80
D E	80 60	80 68	80 70	80 70	80 35	75 35
F	48	50	40	35	30	60

Figure 27. Threading charts.

This is how to read the feed rate charts:

1. The box in the upper left-hand corner of each chart tells whether that chart represents carriage feed movement for standard or metric threads. These boxes are shaded in **Figure 28**.

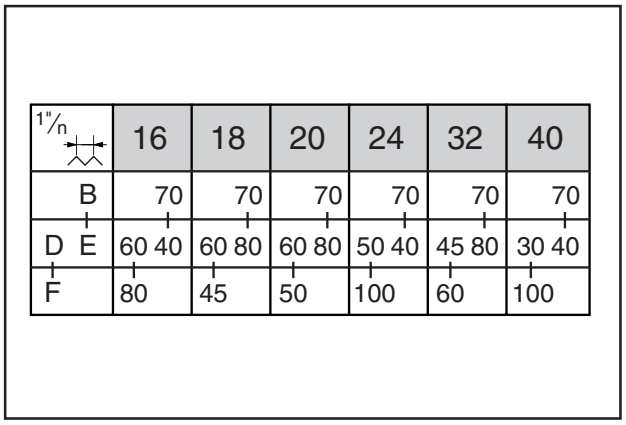


1"/n	16	18	20	24
B	70	70	70	70
D E	60 40	60 80	60 80	50 40
F	80	45	50	100

mm	0.4	0.5	0.6	0.7
C B	68 80	68 80	68 80	68 40
D E	72 30	72 35	72 45	72 35

Figure 28. The shaded box indicates whether the chart is for standard or metric threads.

2. The boxes in the top row of each chart (excluding the box in the left-hand corner) shows the thread pitches listed on that chart. These boxes are shaded in **Figure 29**.



1"/n	16	18	20	24	32	40
B	70	70	70	70	70	70
D E	60 40	60 80	60 80	50 40	45 80	30 40
F	80	45	50	100	60	100

Figure 29. The shaded boxes show the thread pitches listed on this chart.

3. The boxes on the left-hand column (excluding the box in the upper left-hand corner) represent the gear positions on each shaft. These boxes are shaded in **Figure 30** and the shafts are called out with arrows.

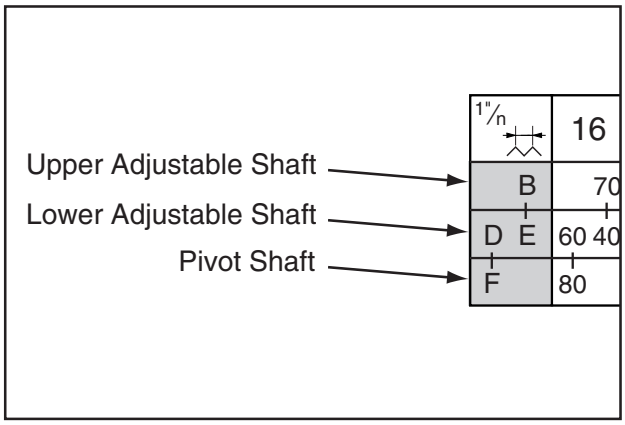


Figure 30. The shaded boxes show the thread pitches listed on this chart.

4. Each shaft has room for two positions to mount the gears—a forward position and a rear position. **Figure 31** separates these positions into different shades for you to understand better.

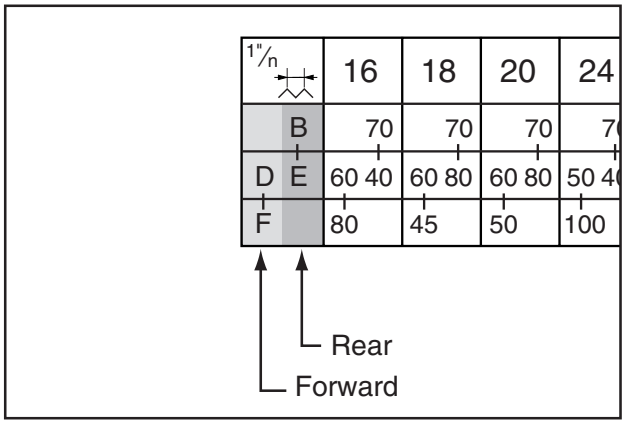


Figure 31. The shaded boxes show the thread pitches listed on this chart.

Both forward and rear positions must be filled on the shaft in order for the gears to work properly. A good example of this is the blank spot to the right of gear "F," as shown in the chart in **Figure 31**. Although the chart shows this as a blank spot, there should actually be a spacer in this position on the machine. This spacer is not listed on the chart, because the chart only reflects ACTIVE gear positions.

NOTICE

On some setups, smaller gears must be used as spacers on the adjustable shafts.

5. The lines between gears “B” & “E” and gears “D” & “F” on the chart in **Figure 32** indicate where the gears should be in mesh.

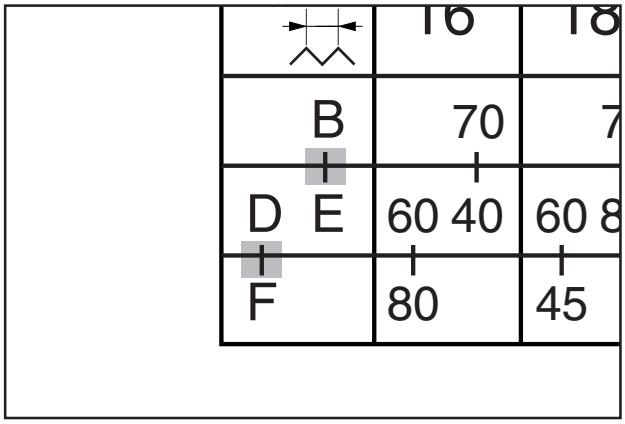


Figure 32. The shaded boxes highlight the gear mesh lines.

6. The boxes shaded in **Figure 33** represent the actual gear combinations required to cut the thread pitches.

1"/n	16	18	20	24	32	40
B	70	70	70	70	70	70
D E	60 40	60 80	60 80	50 40	45 80	30 40
F	80	45	50	100	60	100

Figure 33. The shaded boxes show specific gear setups.

Here is a real-world example of a gear setup as shown on the chart:

When the lathe/mill is shipped from the factory, it is geared for a carriage feed rate of .005" per spindle revolution, or the gear combination shaded in **Figure 34**.

"/n	0.005"	0.010"
C B	35 80	50 80
D E	90 30	66 30
F	100	100

Figure 34. Chart showing gear setup for .005".

Figure 35 shows a profile of the .005" feed rate actual gear setup on the machine. Notice how the gears mesh together in the locations displayed on the chart.

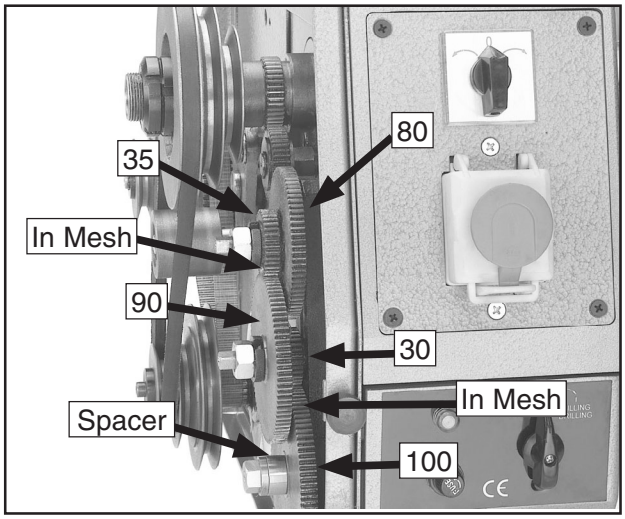


Figure 35. Actual gear setup for .005" feed rate.

Changing Gears For Carriage Feed Rate

To learn how to change gears, change the current gear setup to the .010" feed rate that is shaded in **Figure 36**.

"/n		0.005"	0.010"
C	B	35 80	50 80
D	E	90 30	66 30
	F	100	100

Figure 36. 0.010" feed rate setup (shaded).

To change the carriage feed rate to .010" per spindle revolution:

1. **Disconnect the lathe/mill from the power source!**

2. Loosen the knurled knob shown in **Figure 37**, and open the drive cover.

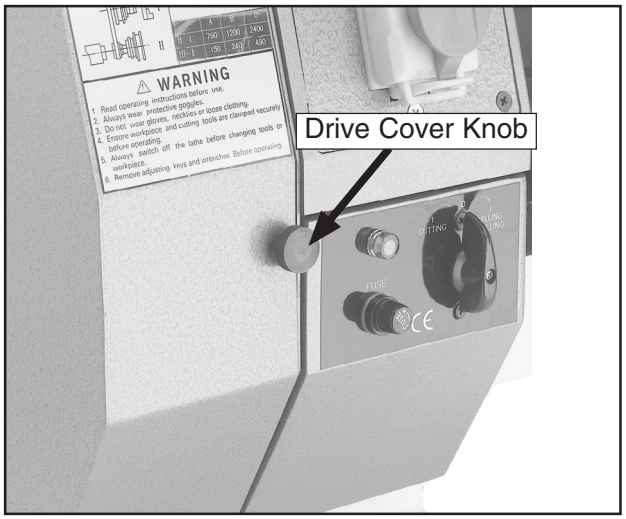


Figure 37. Knurled drive cover knob.

3. Hold the adjustable shaft in place with the shaft wrench and use a 19mm wrench to remove the hex nuts on the upper and lower adjustable shafts as shown in **Figure 38**.

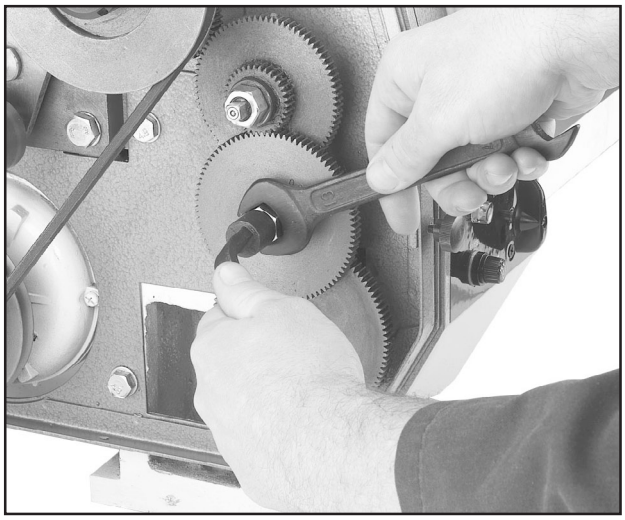


Figure 38. Removing hex nuts from adjustable shafts with a 19mm wrench.

4. Slide the special lock washer off of each adjustable shaft as shown in **Figure 39**.

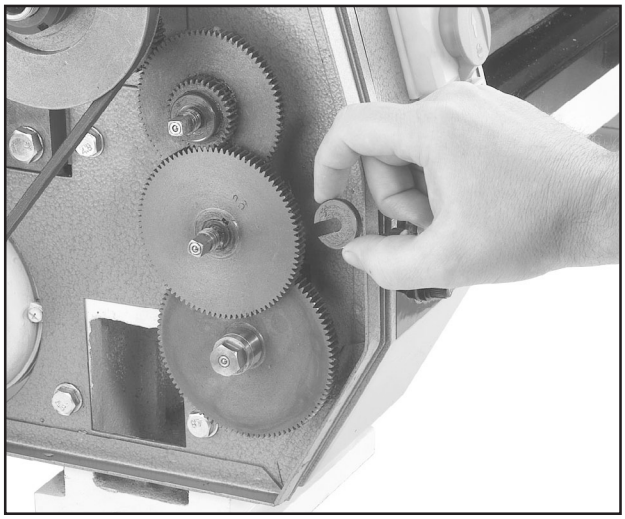


Figure 39. Removing special lock washers from adjustable shaft.

5. Use the shaft wrench to loosen the upper and lower adjustable shafts, as shown in **Figure 40**. DO NOT loosen them too much or the clamp nut will fall out and you will have to remove the gear bracket to reconnect the adjustable shaft to the clamp nut.

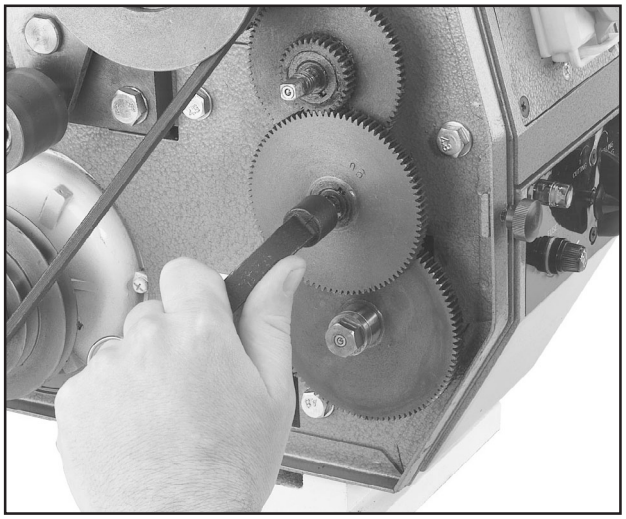


Figure 40. Using shaft wrench to loosen adjustable shafts.

6. Loosen the cap screw on the gear bracket with the 5mm allen wrench as shown in **Figure 41**.

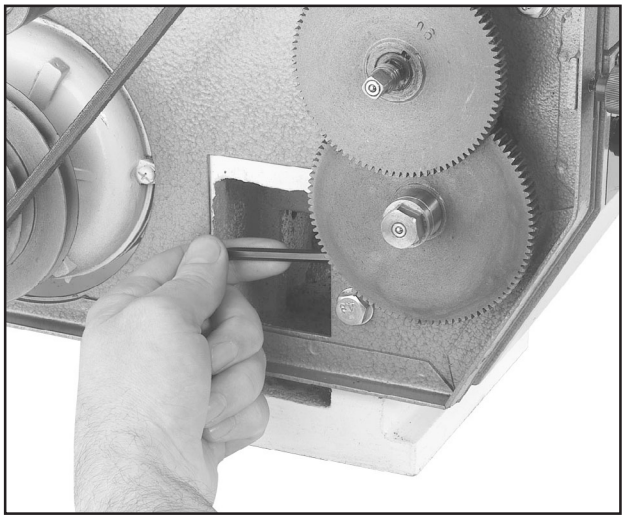


Figure 41. Loosening gear bracket cap screw.

7. Pivot the gear bracket away from the drive gear as shown in **Figure 42**.

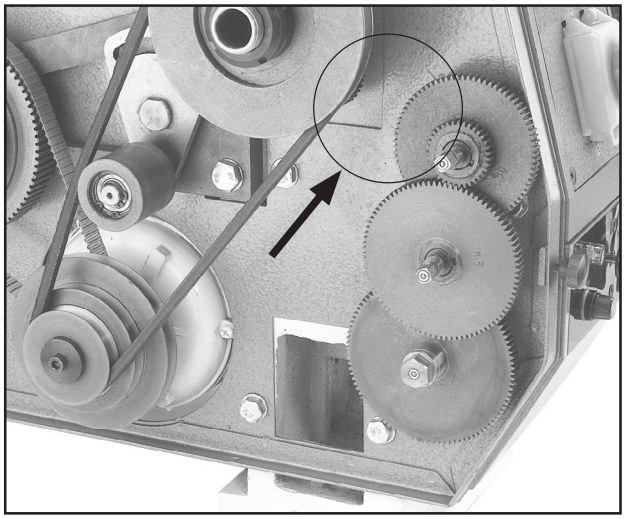


Figure 42. Gear bracket pivoted away.

8. Slide the gears on the upper adjustable shaft to the top of the gear bracket, and hand tighten the shaft to keep it from meshing with the gears on the lower shaft.

9. Remove the 35T and 90T gears (those in the forward position on each adjustable shaft).

10. Place the 50T gear on the upper adjustable shaft and place the 66T gear on the lower adjustable shaft. *Note—when placing the gear on the lower adjustable shaft, slide it up or down to make it mesh with the gear on the pivot shaft.*

11. Place the special lock washers on each adjustable shaft to ensure the gears are completely in place.

12. Thread the hex nuts back onto the shafts, and hold the shaft in place with the shaft wrench as you tighten the hex nut.

13. Loosen the upper shaft to allow the gears to slide down the gear bracket and mesh with the middle set of gears.

14. Pivot the gear bracket toward the drive gear so all the intended gears are in mesh.

15. Tighten the adjustable shafts and the gear bracket cap screw. At this point, all gears should not be able to move out of position.

16. Turn the the chuck by hand to make sure that all the gears turn smoothly.

17. Replace the drive cover and secure it with the knurled knobs.

18. Test run the lathe to make sure it works properly before continuing with your specific operation.

Reverse Threading

The Model G0516 can be setup to turn left-handed threads by adding another fixed-shaft gear and moving the original fixed-shaft gear to another mounting location. **Figure 43** shows the three mounting locations for fixed-shaft gears (spindle drive pulley is removed for clarity). For illustration purposes, we label these mounting positions A, B & C.

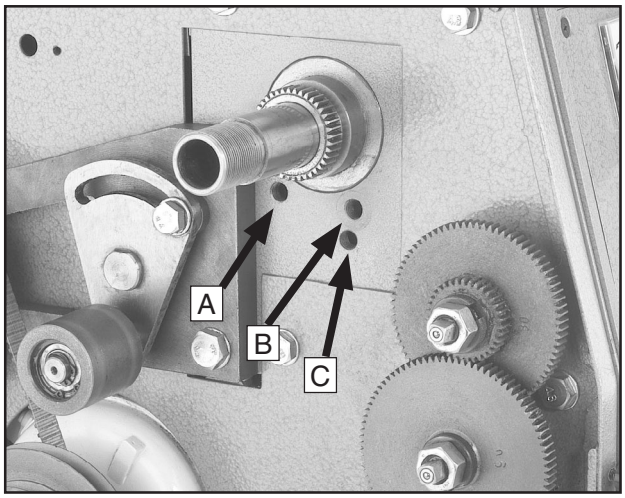


Figure 43. Fixed-shaft gear mounting positions.

To set up the gears for reverse threading:

1. **Disconnect the lathe/mill from the power source!**

2. Locate the extra fixed-shaft gear (shown in **Figure 44**) in your inventory of loose parts.

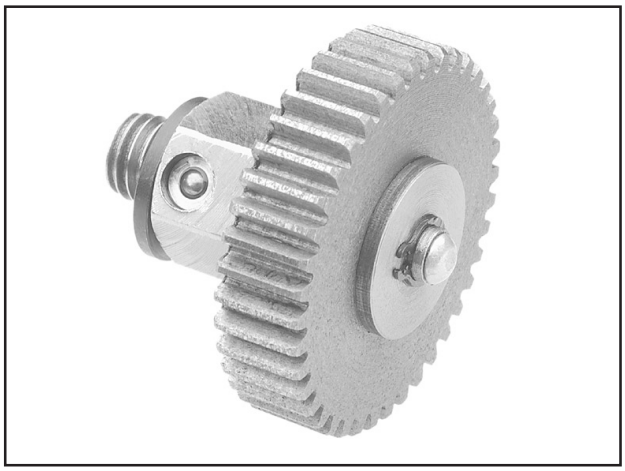


Figure 44. Extra fixed-shaft gear.

3. Thread the extra fixed-shaft gear into mounting location “A” as shown in **Figure 45**.

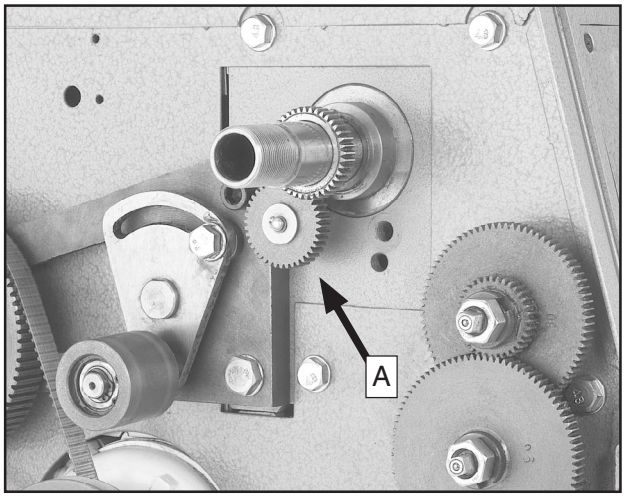


Figure 45. Extra fixed-shaft gear mounted in position “A.”

4. When the machine is shipped, a fixed-shaft gear is in position “B.” Remove that fixed-shaft gear from mounting location “B” and thread it into mounting location “C” as shown in **Figure 46**.

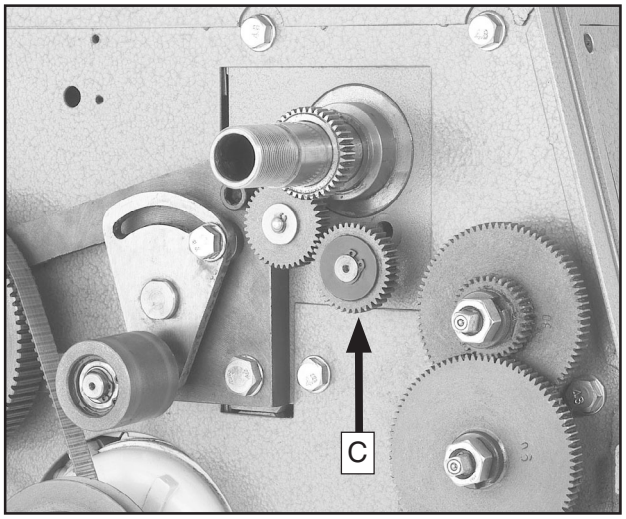


Figure 46. Fixed-shaft gear mounted in position “C.”

5. Loosen the cap screw on the gear bracket, and pivot the bracket so the top gear meshes with the fixed-shaft gear that is in position “C,” as shown in **Figure 47**.

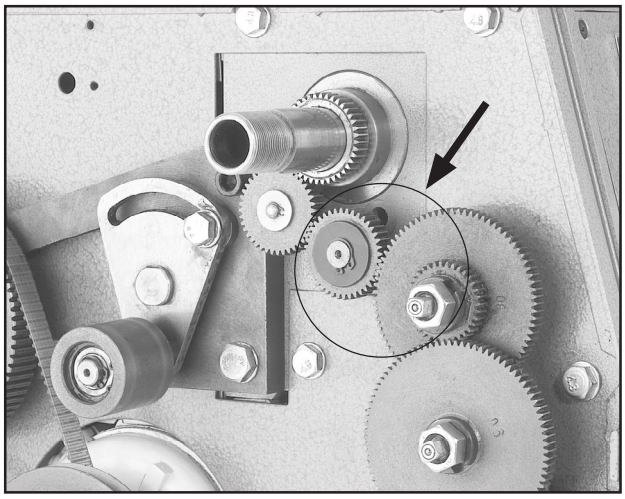


Figure 47. All gears in mesh for reverse threading operations.

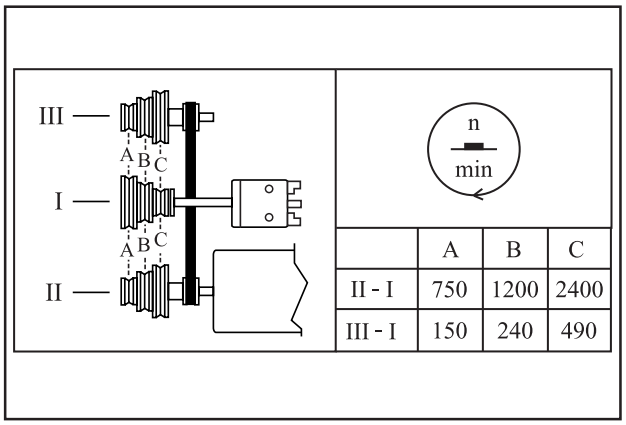
6. Tighten the cap screw in the gear bracket to keep it from pivoting.

7. Spin the lathe chuck by hand to ensure that the gears do not bind.

8. Replace the cover and test run the machine before proceeding with your specific operation.

Changing Speeds

The Model G0516 features 6 speeds—150, 240, 490, 750, 1200 & 2400 RPM. These speeds can be changed by positioning the V-belt in different sheaves on the drive pulleys, as illustrated in the speed change chart on the machine label or in **Figure 48**.



	A	B	C
II - I	750	1200	2400
III - I	150	240	490

Figure 48. Speed change chart.

To change the belt position on the pulleys:

1. **Disconnect the lathe/mill from the power source!**

2. Remove the drive belt cover.

3. Loosen the bolt on the tensioner bracket (shown in **Figure 49**) with a 19mm wrench.

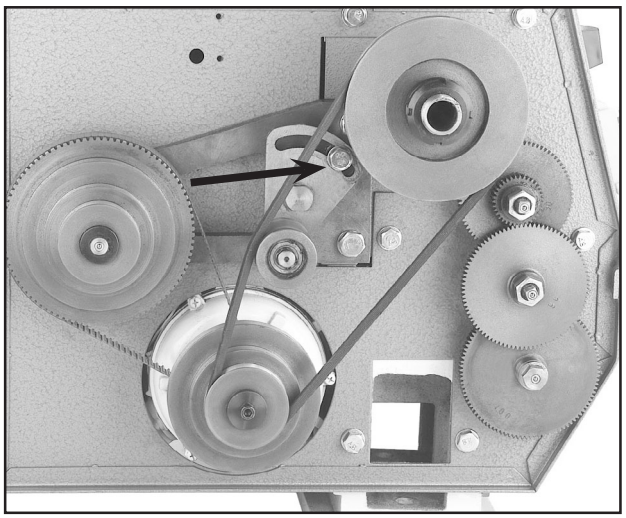


Figure 49. Tensioner adjustment bolt.

4. Move the pulley bracket away from the belt.

5. Position the belt into the pulley sheaves that dictate the speed required for your operation.

6. Move the pulley bracket into the belt and tension it until there is about ½" deflection on the side of the belt that is opposite of where the tensioner is making contact. **Figure 50** shows how to check for proper tension by using a ruler and your thumb. *Note—only moderate pressure is needed to check belt tension!*

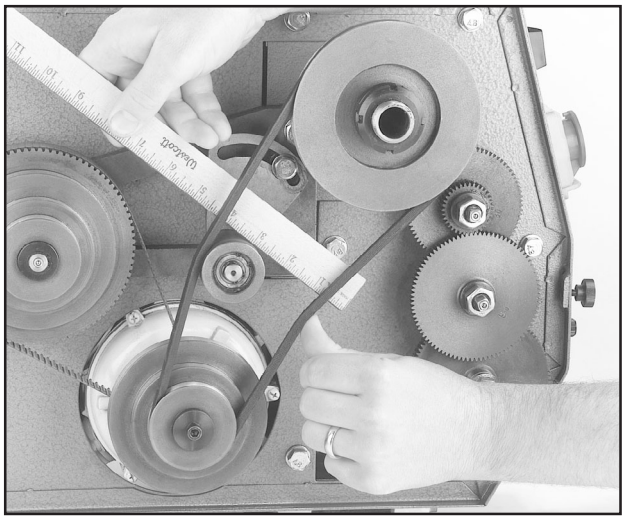


Figure 50. Checking for proper V-belt tension.

7. Replace the drive belt cover.

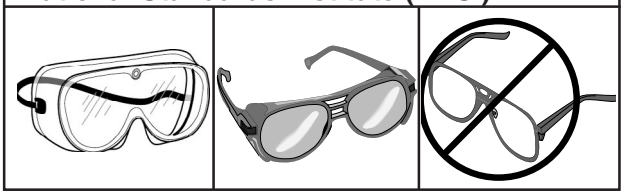
⚠CAUTION

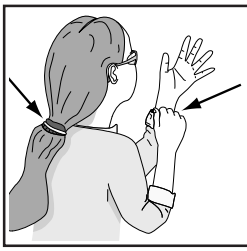
Some threading operations may damage the lead screw if performed at high speeds. Always use the slowest speed possible for your particular operation!

SECTION 5: MILL/DRILL OPERATIONS

⚠WARNING

Operating this equipment has the potential for flying debris to cause eye injury. Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses only have impact resistant lenses, they are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).





⚠WARNING

Keep loose clothing out of the way of machinery and keep hair pulled back during operations.

⚠WARNING

Never leave a chuck key in the chuck when it is not in use. If the machine is accidentally started, the chuck key can become a projectile and cause serious personal injury.

NOTICE

The following section was designed to give instructions on how to prepare the various items of your *MILL/DRILL* during operation procedures; however, this section is in no way designed to instruct on milling/drilling techniques or machining skills. WE STRONGLY RECOMMEND that you read books, trade magazines, or get formal training to gain the skills needed for the operation of the mill/drill portion of your machine.

Mill/Drill

To get the most out of your machine, please take the time to familiarize yourself with the various controls and components of the mill/drill, as shown in **Figures 51** and **52**.

Spindle Taper..... MT#3
Drawbar M12-1.75

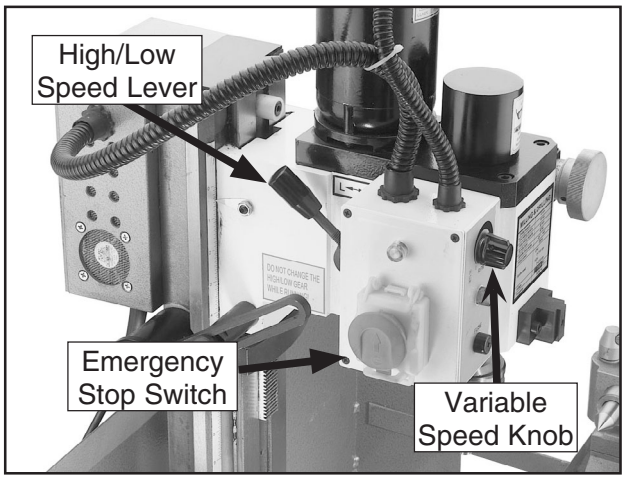


Figure 51. Mill/drill controls.

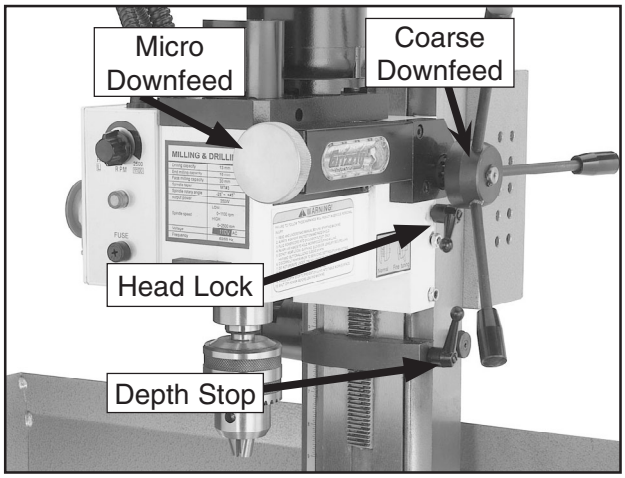


Figure 52. Mill/drill controls.

NOTICE

The hub on the coarse downfeed handwheel must be engaged to use the micro downfeed knob.

Changing Chucks

The drill chuck can be removed and replaced with an optional collet chuck when switching to milling operations.

To change chucks in the mill/drill:

1. **Disconnect the lathe/mill from the power source!**

2. Remove the mill/drill spindle cap as shown in **Figure 53**. *Note—if you cannot remove the cap off by pulling on it, give it a sideways bump with your hand.*

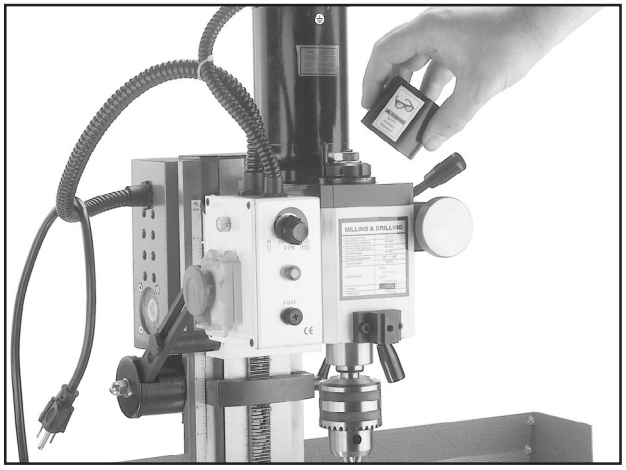


Figure 53. Removing mill/drill spindle cap.

3. Use a 19mm wrench, as shown in **Figure 54**, to remove the spindle draw nut.

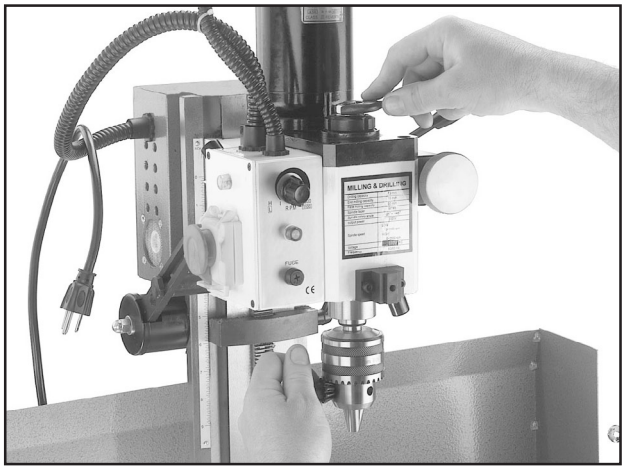


Figure 54. Removing mill/drill spindle lock nut.

4. Thread the draw nut up so it is flush with the top of the draw bolt.

5. Using a brass or wood hammer, tap the end of the draw nut as shown in **Figure 55**. The drill chuck should now become loose in the spindle.

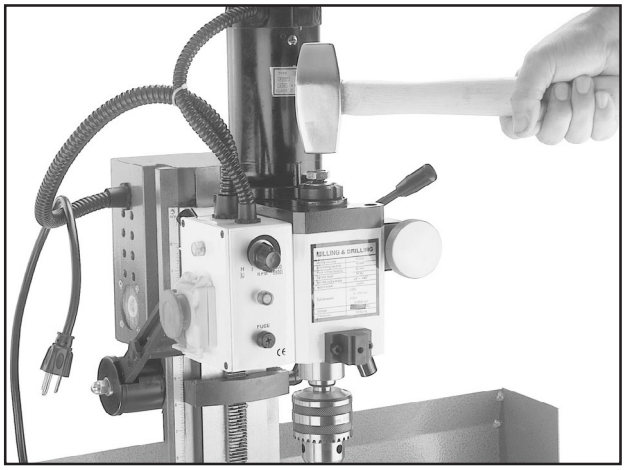


Figure 55. Tapping draw bolt loose with hammer.

6. Hold the drill chuck with one hand and remove the draw nut and washer with the other hand. The drill chuck should now be easily removed from the bottom as shown in **Figure 56**.

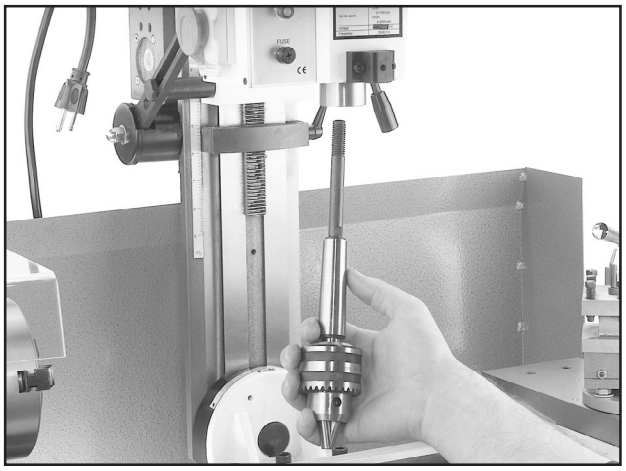


Figure 56. Removing drill chuck from spindle.

7. Remove the draw bolt from the drill chuck arbor and thread it into the mill arbor. *Note—use the flats on the draw bolt to loosen or tighten it in the arbors.*

8. Firmly insert your collet chuck into the spindle taper.

9. Insert the flat washer and thread the hex nut onto the end of the draw bolt.

10. Hold the collet chuck in place with the spanner wrench and tighten the hex nut on the draw bolt just enough to snug it in place. See **Figure 57**. DO NOT tighten the hex nut too tight or the collet chuck will be hard to remove from the spindle taper.

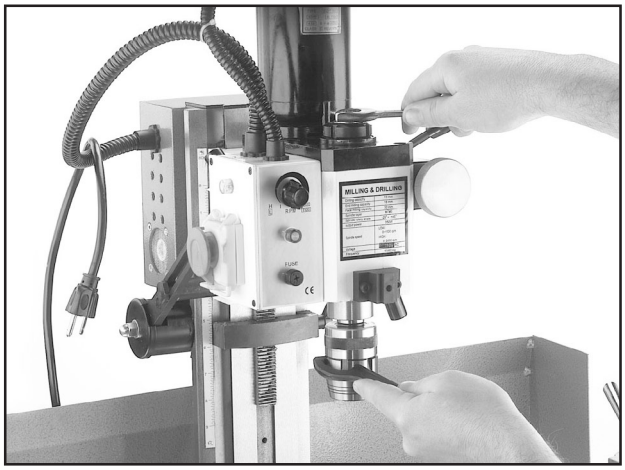


Figure 57. Installing optional collet chuck.

Installing Mill Table

The Model G0516 includes a milling table as an accessory. When the Model G0516 is shipped from the factory, the compound slide is mounted on the cross slide and must be removed before the milling table can be installed. Once installed, the milling table moves back and forth with the cross slide.

To install the mill table:

1. Use a 12mm wrench to remove the two bolts that secure the compound slide to the cross slide. See **Figure 58**.

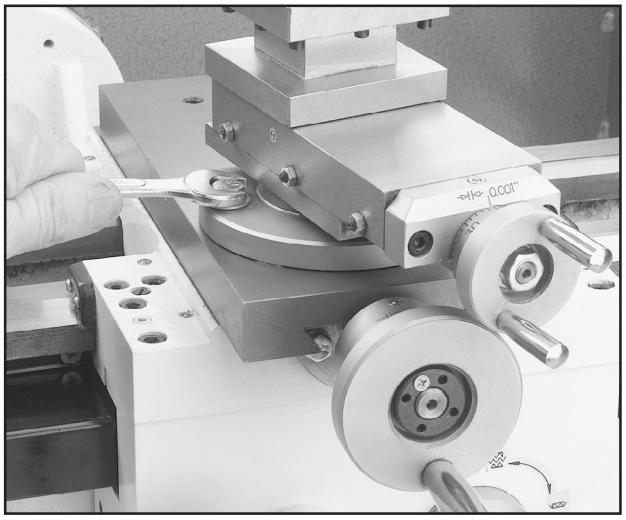


Figure 58. Removing compound slide bolts.

2. Remove the compound slide from the cross slide.

3. Place the milling table on the cross slide so the mounting bolts line up with the threaded holes.

4. Secure the milling table to the cross slide, using a 6mm allen wrench with the table mounting cap screws. **Figure 59** shows the milling table installed on the cross slide.

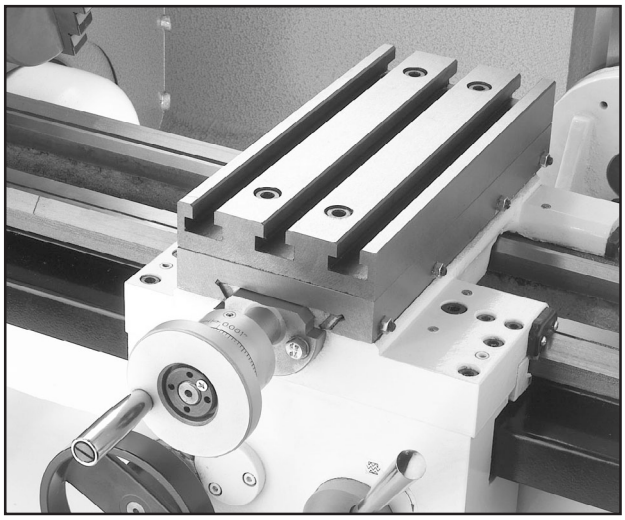
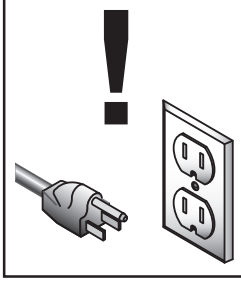


Figure 59. Mill table installed on cross slide.

SECTION 6: MAINTENANCE



⚠WARNING

Disconnect power to the machine when performing any adjustments or maintenance. Failure to do this may result in serious personal injury.

Lubrication

For lubricating your machine, we recommend that you use a manual oiler (oil can) filled with ISO 68 or SAE 20W non-detergent oil or similar lubricant.

Ball fittings—Shown in **Figure 60**, ball fittings are responsible for the majority of the machine lubrication. To lubricate ball fittings, depress the ball with the tip of the oil can nozzle and squirt a little oil inside the fitting. Make sure to clean the outside of the ball fitting before and after each use to keep out contaminants.

Figure 60. Lubrication ball fittings.

Ball Fitting Lubrication Points—Lubricate the following areas every 8 hours of actual use:

1. Left Leadscrew Support
2. Compound Slide
3. Compound Slide Leadscrew
4. Tailstock Barrel
5. Tailstock Leadscrew
6. Right Leadscrew Support

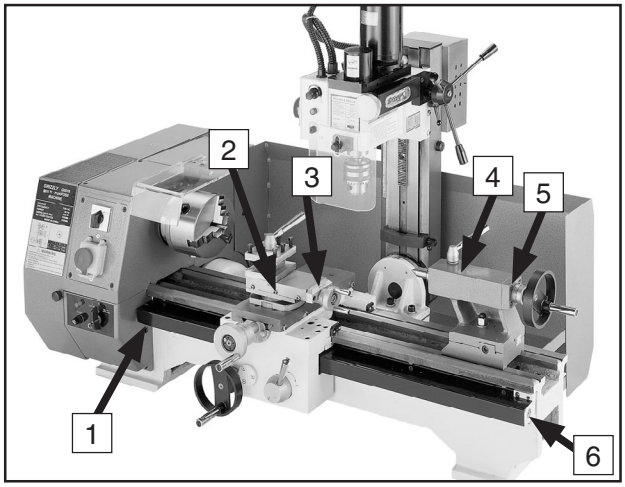


Figure 61. Ball fitting lubrication points.

7. Fixed-Shaft Gear
8. Synchronized Counter Pulley
9. Upper Adjustable Shaft
10. Lower Adjustable Shaft
11. Pivot Shaft

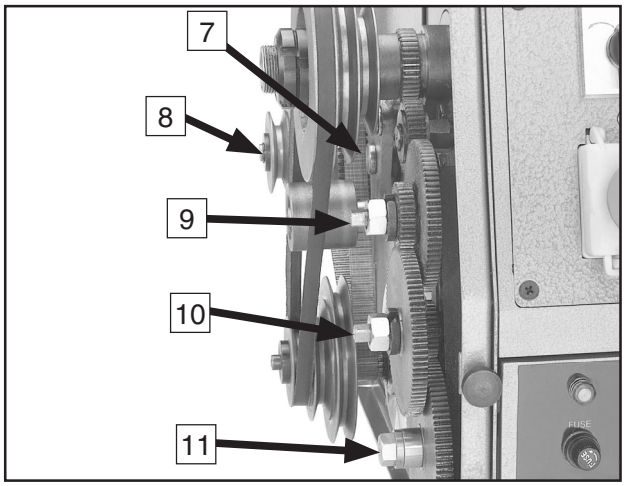


Figure 62. Ball fitting lubrication points.

12. Bed Guide
13. Cross Slide Leadscrew
14. Bed Guide
15. Bed Guide
16. Apron
17. Cross Slide Leadscrew Support
18. Apron
19. Bed Guide
20. Bed Guide
21. Bed Guide

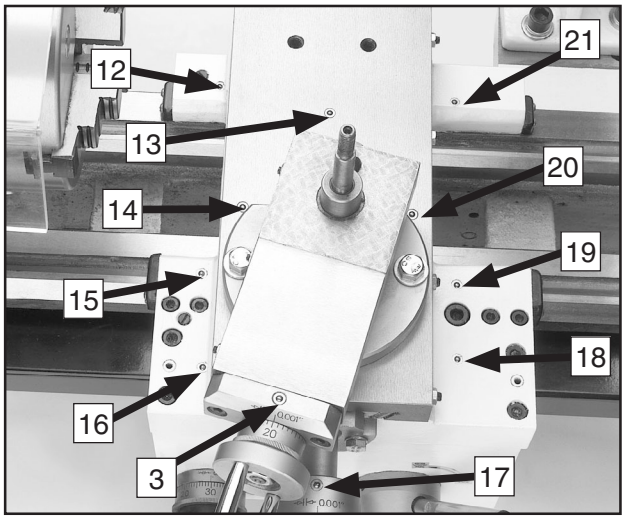


Figure 63. Ball fitting lubrication points.

Gears—Apply a minimal amount of oil to the teeth of the end gears after assembly and each 8 hours of actual use. Avoid getting oil on the belt or pulleys when lubricating. Also, regularly apply lubrication to all the ball fittings drive box.

Long Leadscrew—Apply a minimal amount directly on the rack every 8 hours of actual use.

Carriage Rack—Apply a minimal amount directly on the rack every 8 hours of actual use.

Mill/Drill Rack & Pinion—Apply a minimal amount directly on the rack every 8 hours of actual use.

Checking V-Belt

To ensure optimum power transmission from the motor, the V-belts must be in good condition and must operate under proper tension. The belts should be checked for cracks, fraying, and wear at least every 3 months—more often if the machine is used daily.

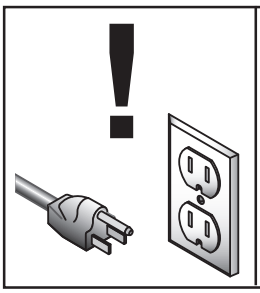
The check the V-belt:

1. **Unplug the lathe/mill from its power source!**

2. Open the drive cover.

3. Note the condition of the V-belt. If the V-belt is cracked, frayed, or glazed; it should be replaced.

SECTION 7: SERVICE ADJUSTMENTS



⚠WARNING

Disconnect power to the machine when performing any adjustments or maintenance. Failure to do this may result in serious personal injury.

About Service

This section is designed to help the operator with adjustments that were made at the factory and might also need to be made during the life of the machine.

This section is provided for your convenience—it is not a substitute for the Grizzly Service Department. If any adjustments arise that are not described in this manual, then feel free to call the Grizzly Service Department.

Similarly, if you are unsure of how to perform any procedure in this section, the Grizzly Service Department will be happy to guide you through the procedures or help in any other way.

Gibs

There are four gib adjustments for the Model G0516—the cross-slide gib, the compound slide gib, the apron gib, and the mill/drill downfeed gib.

NOTICE

When adjusting gibs, keep in mind that the goal of gib adjustment is to remove unnecessary sloppiness without causing the slides to bind. Loose gibs may cause poor finishes on the workpiece and may cause undue wear on the slide. Over-tightening may cause premature wear on the slide, leadscrew and nut.

Cross-slide Gib—The gib on the cross-slide is adjusted by tightening or loosening the 4 gib screws located on the right-hand side of the slide. See **Figure 64**. Before adjusting the gib screws, loosen their jam nuts.

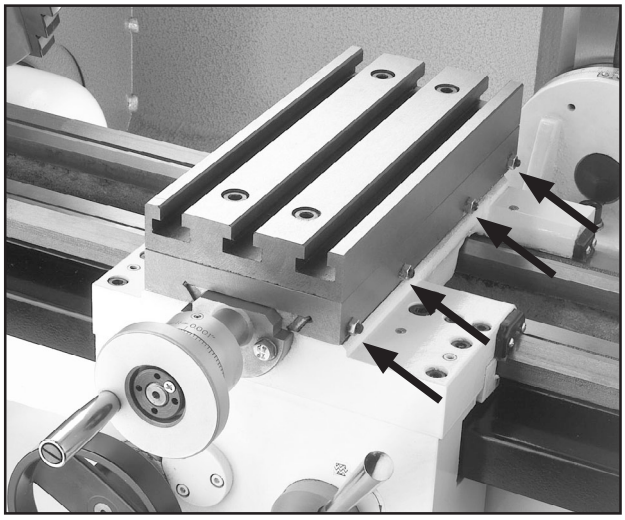


Figure 64. Cross slide gib screws.

The gib is held in place by the setscrews. *DO NOT overtighten.* The gib is properly adjusted when a slight drag is detected while turning the hand crank. This drag should be evenly distributed among the 4 setscrews, so adjust each screw until a slight drag is detected while the hand crank is turned.

Compound Gib—The gib on the compound has 3 screws that maintain tension on the slide. These screws are held in place with retaining nuts. To adjust, loosen the retaining nuts and then tighten the screws as needed. When proper tension has been detected by turning the hand crank on the compound, tighten the retaining nuts while maintaining the position of the screw with an Allen® wrench as in **Figure 65.**

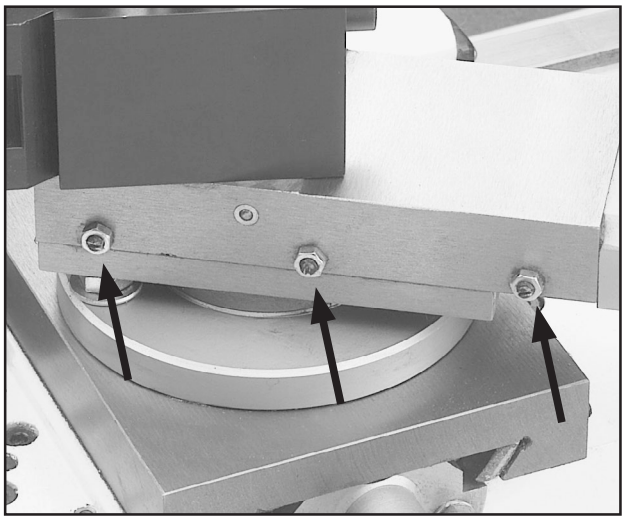


Figure 65. Compound slide gib screws.

Saddle Gibs—There are 4 tensioning screws for both the front and rear saddle gibs. Before making adjustments to the saddle gib, ensure that the front lock lever is loose by turning it counterclockwise. **See Figures 66 & 67.** It is important the screws are tightened evenly. A slight drag should be detected while turning the hand crank at the end of the lathe.

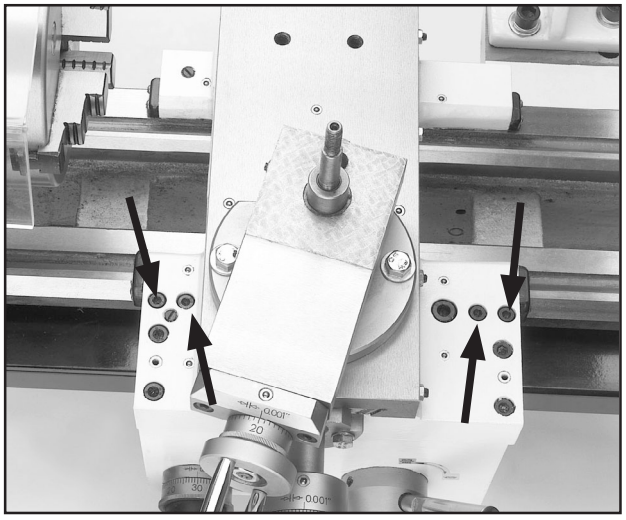


Figure 66. Front saddle gib screws.

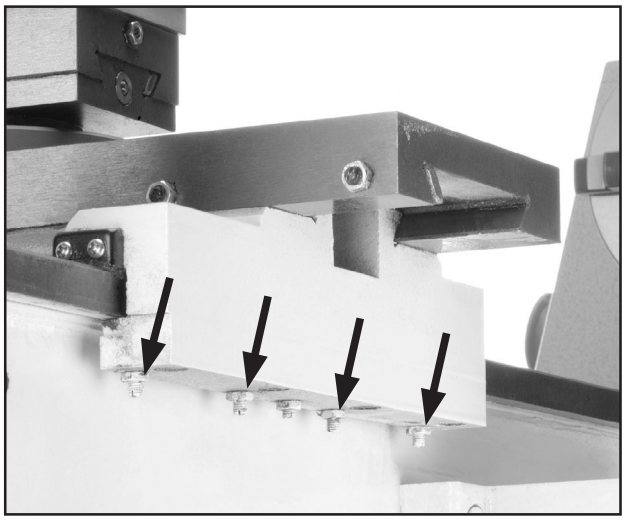


Figure 67. Rear saddle gib screws.

Mill/Drill Gib—There are 4 screws that tension the mill/drill gib. See **Figure 68.** It is important that the screws are tightened evenly. A slight drag should be detected while turning the coarse downfeed handwheel.

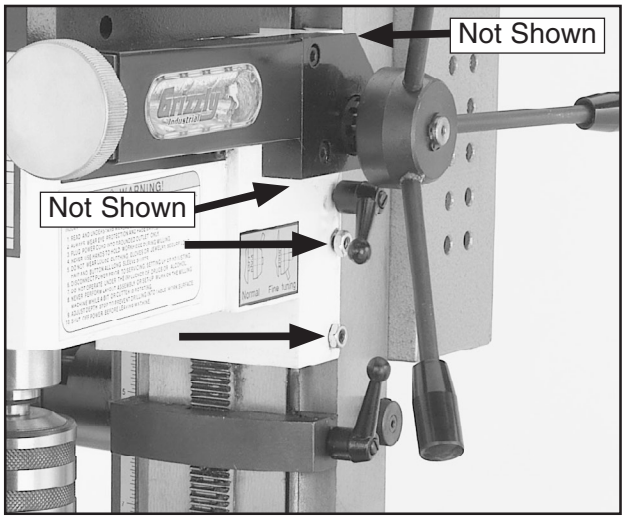


Figure 68. Mill/drill gib screws.

Aligning Tailstock

The tailstock on the Model G0516 is aligned with the headstock at the factory. However, at times you may wish to misalign the tailstock for certain operations; then, realign it when you are finished.

To align the tailstock:

1. Center drill a 6" long piece of round cold rolled stock on both ends. Set it aside for use in **step 4.**

2. Make a dead center by turning a shoulder to make a shank, then flip the piece over in the chuck and turn a 60° point. **See Figure 69.** *Note—As long as it remains in the chuck, the point of your center will be accurate to your spindle axis. Keep in mind that the point will have to be refinished whenever it is removed and returned to the chuck.*

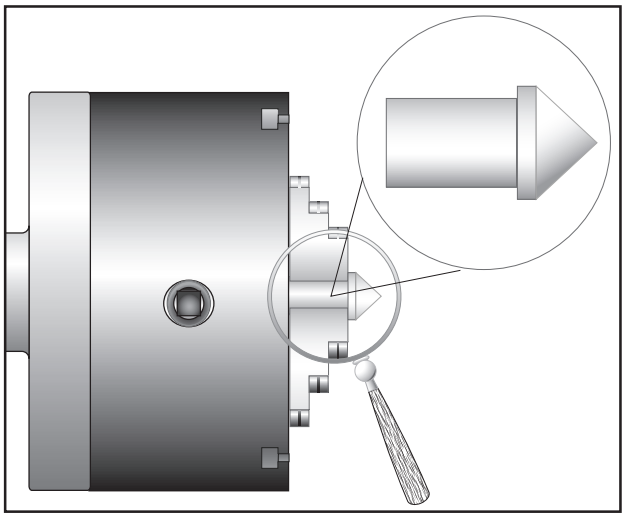


Figure 69. Finished dead center.

3. Place a center in your tailstock.

4. Attach a lathe dog to the bar stock and mount it between the centers. See **Figure 70.**

5. Turn approximately .010" off of the diameter.

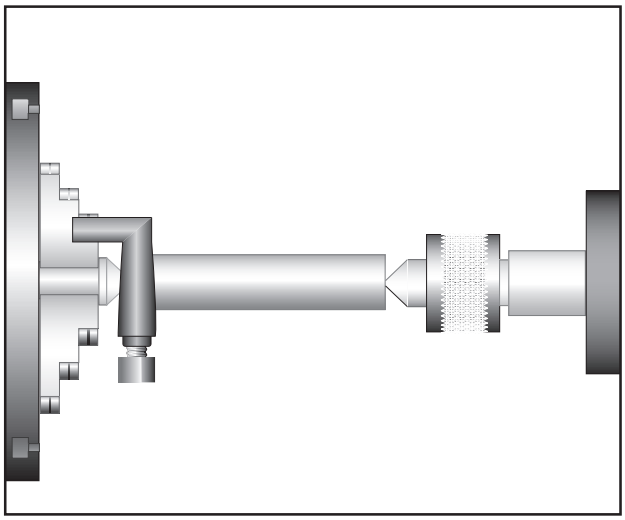


Figure 70. Bar stock mounted on centers.

NOTICE

Before making adjustments to the tailstock, mount a dial indictor so that the dial plunger is on the tailstock barrel. See Figure 71.

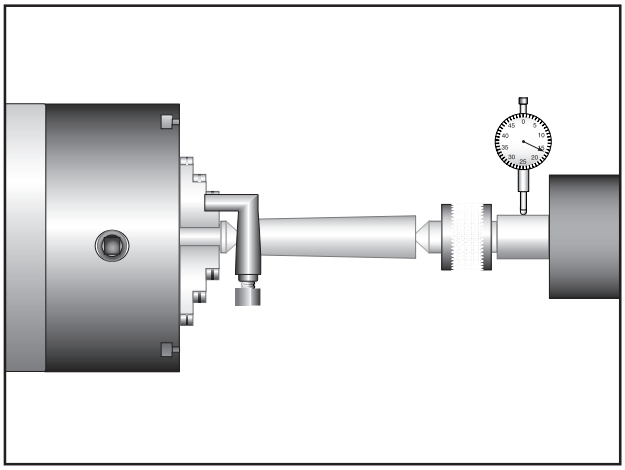


Figure 71. Adjusting for headstock end taper.

6. Measure the workpiece with a micrometer. If the stock is fat at the tailstock end, the tailstock needs to be moved toward you the amount of the taper. See **Figure 71.** If the stock is thinner at the tailstock end, the tailstock needs to be moved away from the operator by at least half the amount of the taper. **See Figure 72.**

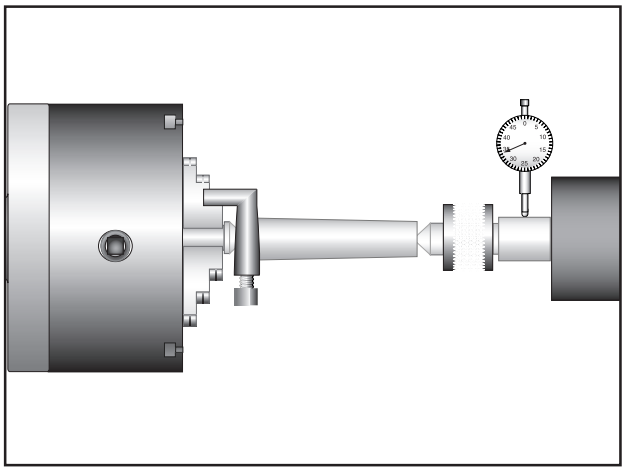


Figure 72. Adjusting for tailstock end taper.

7. Loosen the tailstock clamp nut and the lock screw shown in **Figure 73**.

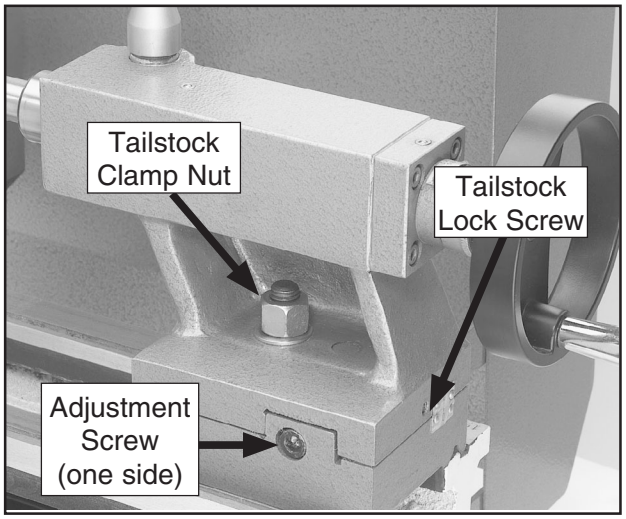


Figure 73. Tailstock offset adjustment screw.

8. Use the tailstock adjustment screws on both sides to adjust move the tailstock offset by half the amount of the taper.

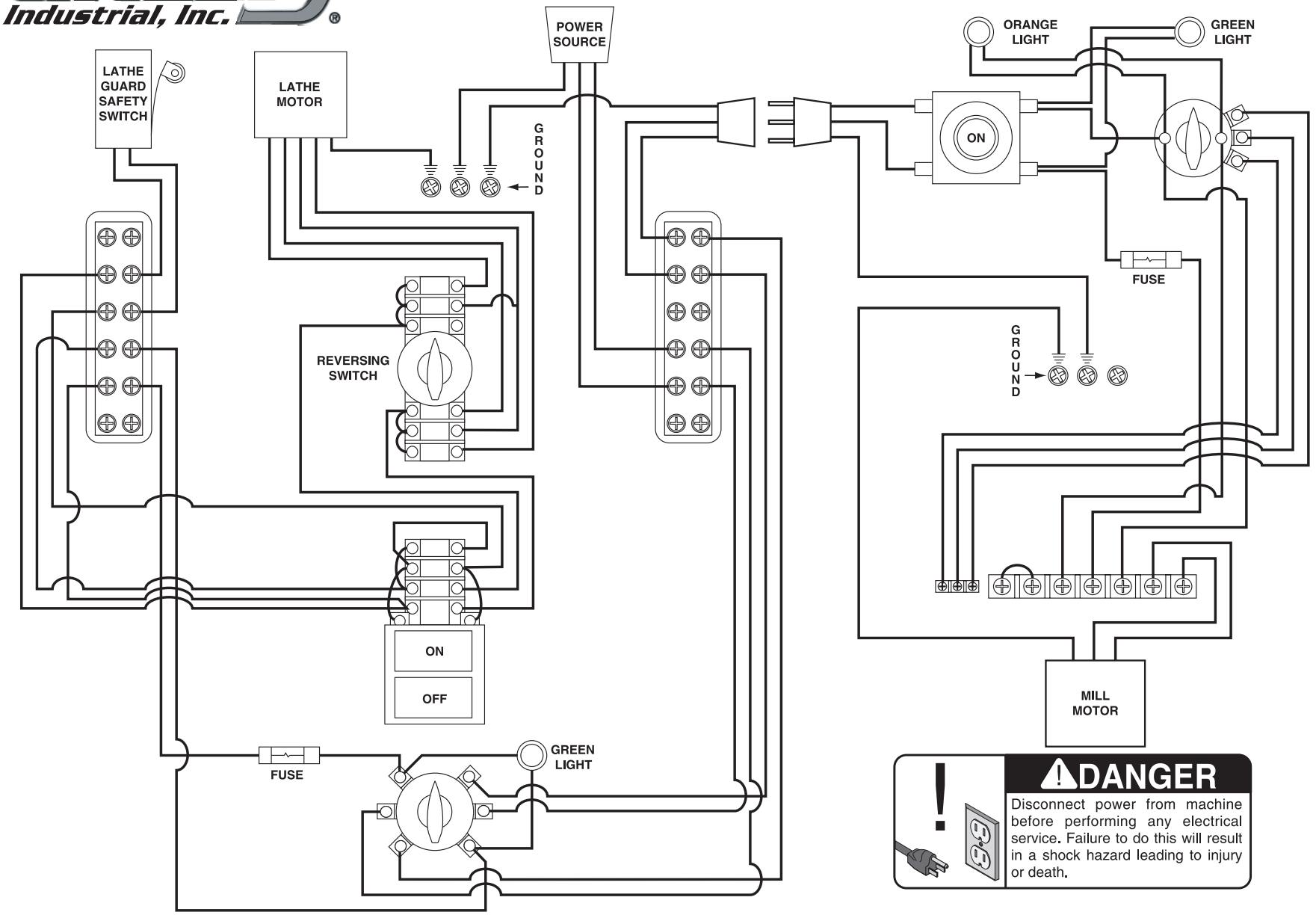
9. Tighten the clamp nut, lock screw and adjustment screws. Be careful not to move the tailstock out of position when tightening the adjustment screws.

10. Turn another .010" off of the stock and check for taper. Repeat **steps 7-9** as necessary until the desired amount of accuracy is achieved.

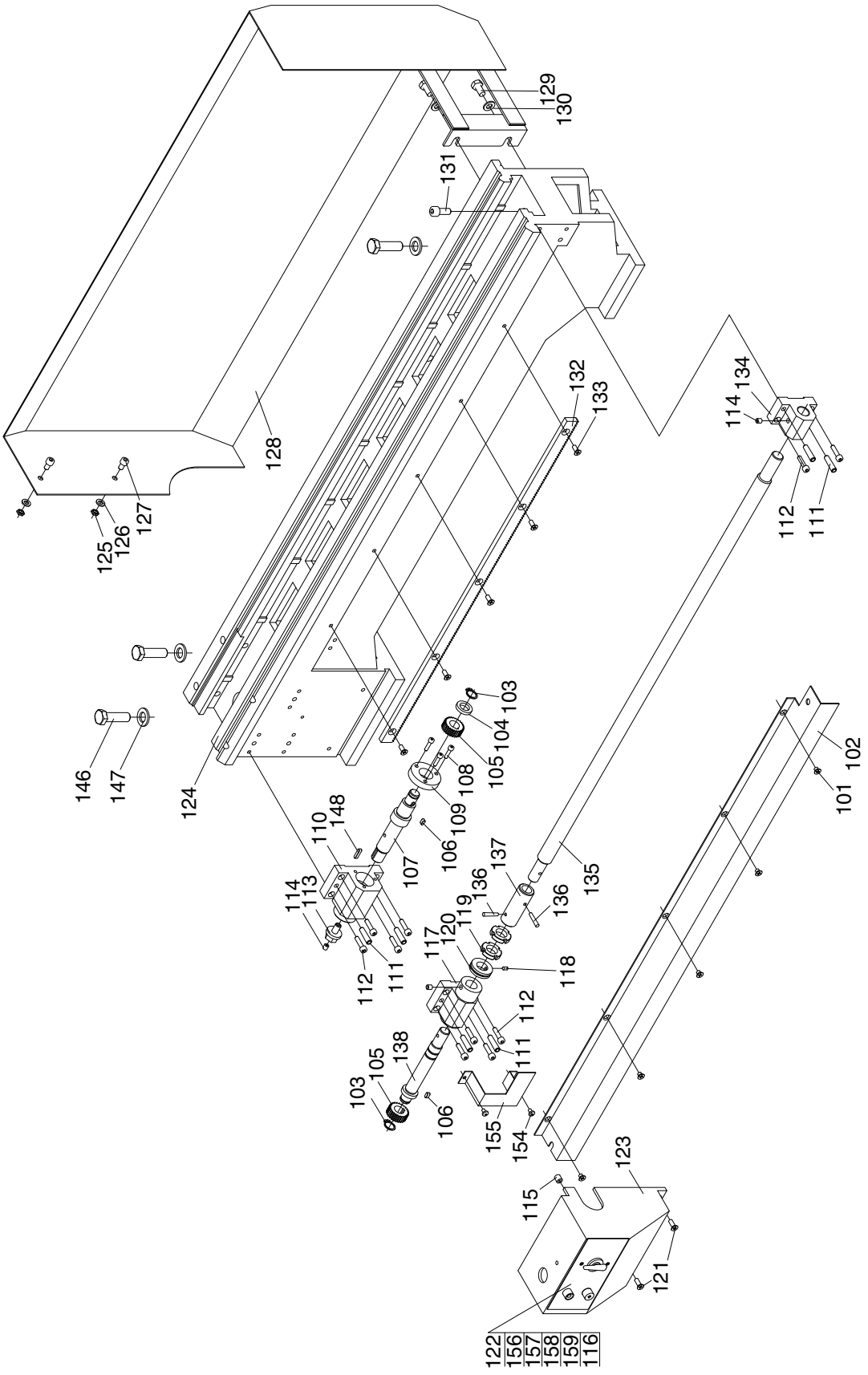
Bearing Preload

This lathe is shipped from the factory with the bearing preload already set. If the preload requires resetting for whatever reason, please contact our service department for further instructions.

G0516 Lathe/Mill Combo Wiring Diagram

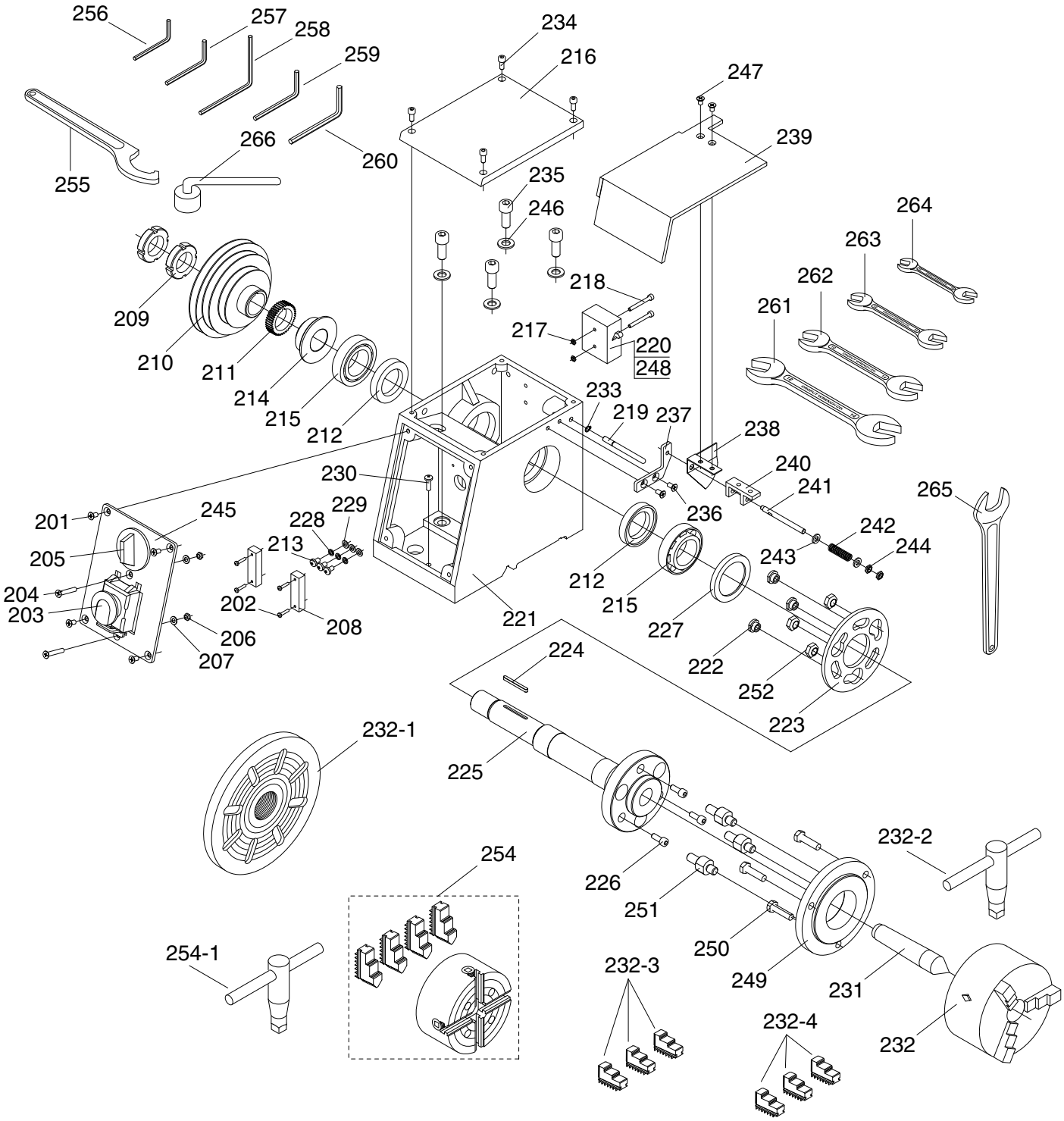


SECTION 8: PARTS



REF	PART #	DESCRIPTION
101	PS05M	PHLP HD SCR M5-.8 X 8
102	P0516102	LEADSCREW COVER
103	PR02M	EXT RETAINING RING 14MM
104	P0516104	CHANGE GEAR SPACER
105	P0516105	SMALL GEAR
106	PK29M	KEY 4 X 4 X 8
107	P0516107	CHANGE GEAR SHAFT
108	PS56M	PHLP HD SCR M4-.7 X 16
109	P0516109	ADJUSTING DISC
110	P0516110	SHAFT SUPPORT
111	P0516111	TAPER PIN 6 X 26
112	PS06M	PHLP HD SCR M5-.8 X 20
113	P0516113	SHOULDER BOLT 21 X 8 X 25
114	P0516114	OIL CUP 6MM
115	P0516115	BLOCK FOR SWITCH
116	PS07M	PHLP HD SCR M4-.7 X 8
117	P0516117	LEADSCREW SUPPORT (L)
118	PS07M	PHLP HD SCR M4-.7 X 8
119	P0516119	ROUND NUT M16 X 1.5
120	P0516120	STEEL WASHER 30 X 16 X 4
121	PS57M	PHLP HD SCR M5-.8 X 14
122	P0516122	SWITCH LABEL
123	P0516123	SHAFT COVER
124	P0516124	BED

REF	PART #	DESCRIPTION
125	PN01M	HEX NUT M6-1
126	PW03M	FLAT WASHER 6MM
127	PB04M	HEX BOLT M6-1 X 10
128	P0516128	SPLASH GUARD
129	PS16M	PHLP HD SCR M8-1.25 x 16
130	PW01M	FLAT WASHER 8MM
131	PS04M	PHLP HD SCR M8-1.25 X 20
132	P0516132	RACK
133	PS08M	PHLP HD SCR M5-.8 X 12
134	P0516134	LEADSCREW SUPPORT (R)
135	P0516135	LONG LEADSCREW 14 X 16 X 79.2
136	PRP56M	ROLL PIN 4 X 25
137	P0516137	SLEEVE JOINT
138	P0516138	JOINT SHAFT
146	PB35M	HEX BOLT M12-1.75 X 40
147	PW06M	FLAT WASHER 12MM
148	PK37M	KEY 4 X 4 X 16
154	PS56M	PHLP HD SCR M4-.7 X 16
155	P0516155	SMALL GEAR PROTECTOR
156	P0516156	GREEN LAMP
157	P0516157	FUSE BOX
158	P0516158	LATHE FUSE F25A 250V
159	P0516159	SELECTOR SWITCH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232-4
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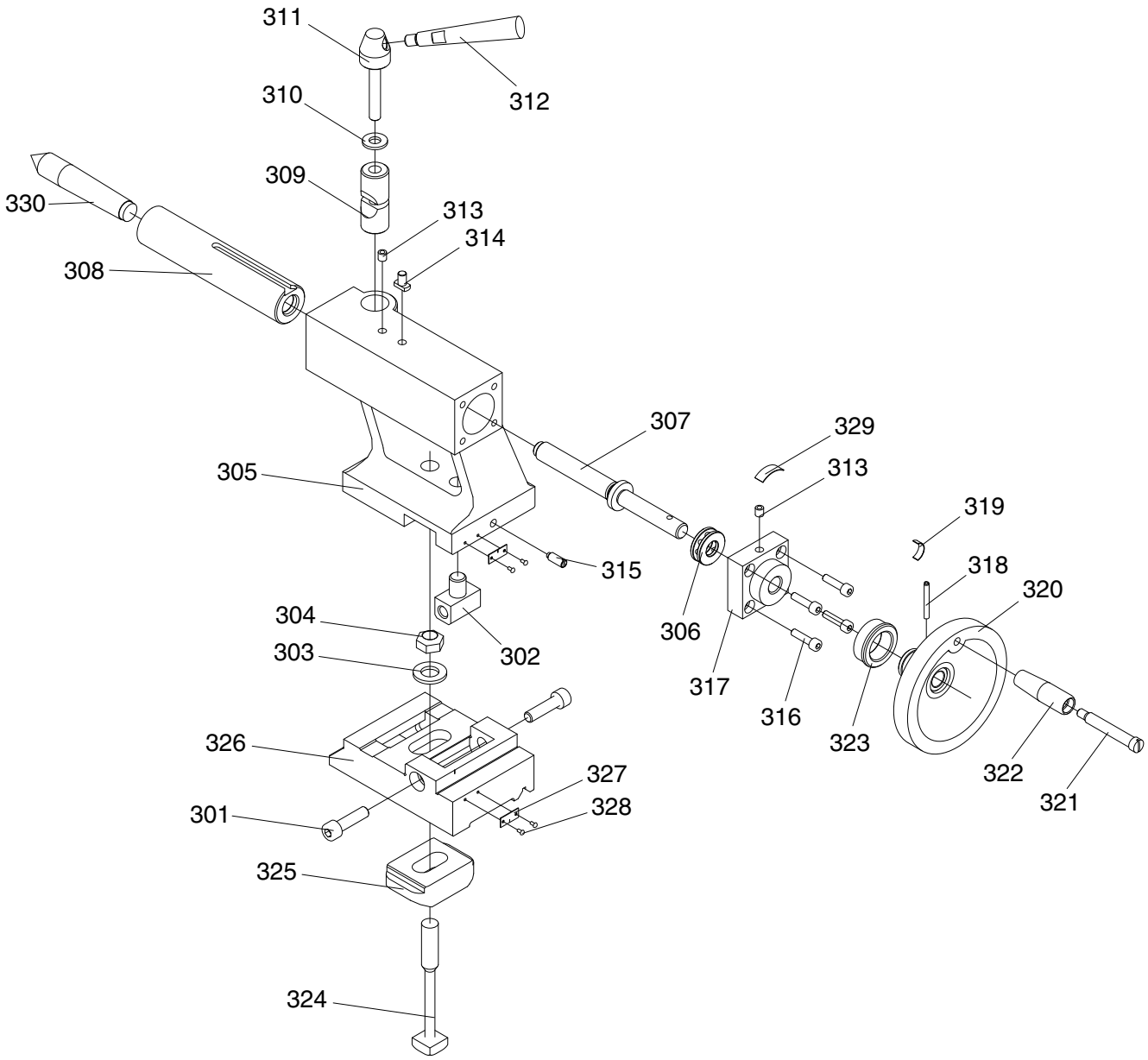
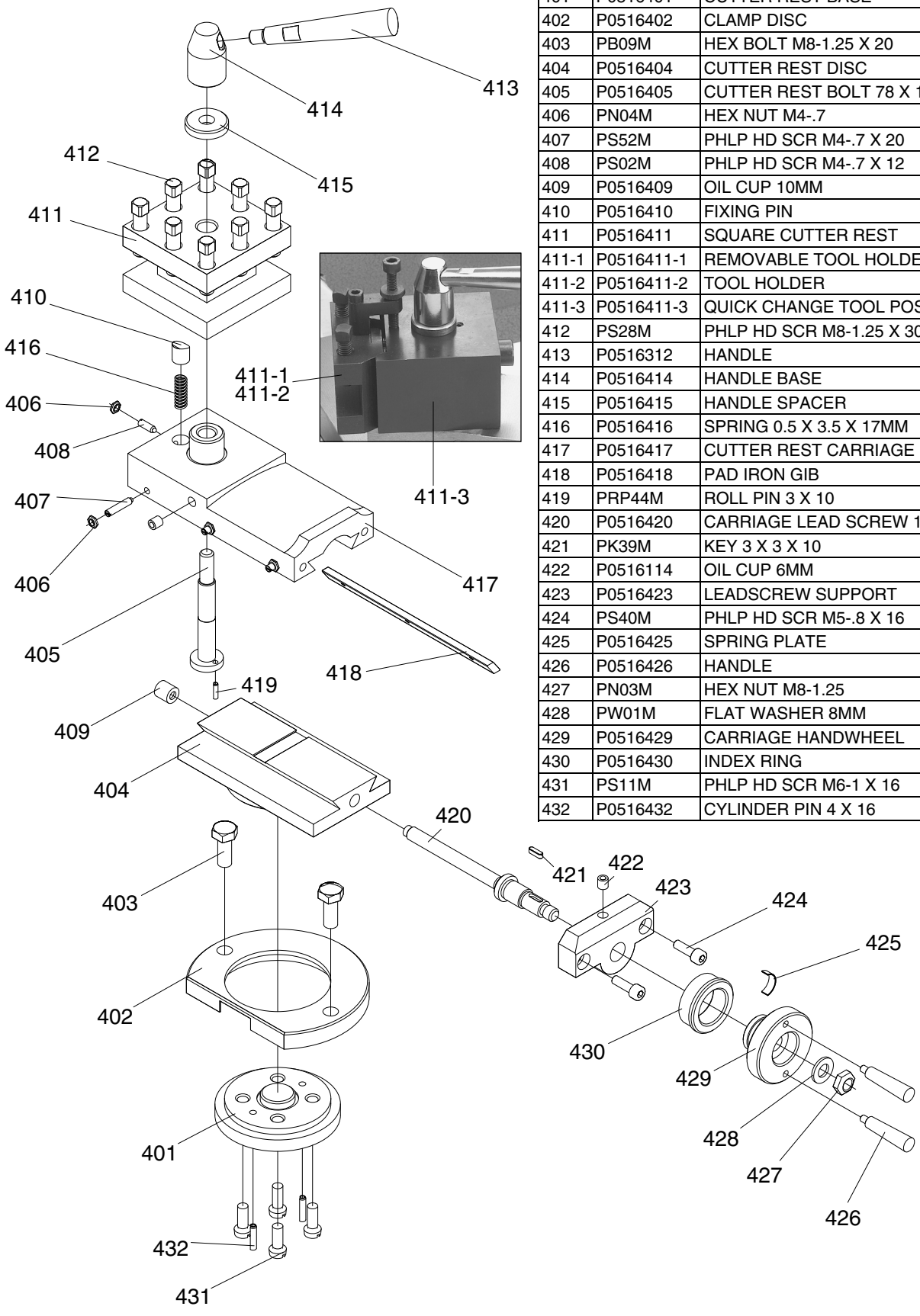
REF	PART #	DESCRIPTION
201	PS09M	PHLP HD SCR M5-.8 X 10
202	PS59M	PHLP HD SCR M3-.5 X 14
203	P0516203	POWER SWITCH W/STOP
204	PS60M	PHLP HD SCR M5-.8 X 30
205	P0516205	FWD/REV SWITCH
206	PN06M	HEX NUT M5-.8
207	PW02M	FLAT WASHER 5MM
208	P0516208	CONNECTOR
209	P0516209	ROUND NUT M27-1.5
210	P0516210	SPINDLE PULLEY
211	P0516211	SPINDLE GEAR
212	P0516212	OIL RING
213	PS05M	PHLP HD SCR M5-.8 X 8
214	P0516214	SPINDLE SPACER
215	P32007	TAPERED BEARING 32007
216	P0516216	SPINDLE BOX COVER
217	PN04M	HEX NUT M4-.7
218	PS25M	PHLP HD SCR M4-.7 X 35
219	P0516219	PIN SHAFT
220	P0516220	BOX FOR MICRO SWITCH
221	P0516221	HEAD STOCK BODY
222	P0516222	FIXING NUT 16 X 11 X 8
223	P0516223	ROTATABLE SPACER
224	PK68M	KEY 4 X 4 X 40
225	P0516225	SPINDLE
226	PS11M	PHLP HD SCR M6-1 X 16
227	P0516227	FRONT BEARING COVER
228	PLW01M	LOCK WASHER 5MM
229	PTLW02M	EXT TOOTH WASHER 5MM
230	PS40M	PHLP HD SCR M5-.8 X 16
231	P0516231	SPINDLE CENTER MT3
232	P0516232	3-JAW CHUCK D-125MM
232-1	P0516232-1	FACEPLATE 8-1/2"
232-2	P0516232-2	3-JAW CHUCK KEY
232-3	P0516232-3	OUTSIDE JAWS FOR 3-JAW CHUCK
232-4	P0516232-4	INSIDE JAWS FOR 3-JAW CHUCK
233	PR04M	EXT RETAINING RING 6MM
234	PS08M	PHLP HD SCR M5-.8 X 12
235	PS41M	PHLP HD SCR M10-1.5 X 25
236	PS09M	PHLP HD SCR M5-.8 X 10
237	P0516237	SUPPORT
238	P0516238	LIMIT BLOCK
239	P0516239	CHUCK GUARD
240	P0516240	FIXING SUPPORT
241	P0516241	SMALL SHAFT
242	P0516242	COMPRESS SPRING 8.2 X 1.4 X 33
243	PW03M	FLAT WASHER 6MM
244	PN01M	HEX NUT M6-1
245	P0516245	PLATE FOR SWITCHES
246	PW04M	FLAT WASHER 10MM
247	PS05M	PHLP HD SCR M5-.8 X 8
248	P0516248	MICROSWITCH
249	P0516249	3-JAW CHUCK FLANGE
250	PB26M	HEX BOLT M8-1.25 X 30
251	P0516251	PLUG BOLT 19.5 X 17 X 45
252	PN02M	HEX NUT M10-1.5
254	P0516254	4-JAW CHUCK WITH JAWS
254-1	P0516254-1	4-JAW CHUCK KEY
255	P0516255	SPANNER WRENCH 45-52
256	PAW03M	HEX WRENCH 3MM
257	PAW04M	HEX WRENCH 4MM
258	PAW05M	HEX WRENCH 5MM
259	PAW06M	HEX WRENCH 6MM
260	PAW08M	HEX WRENCH 8MM
261	PWR1719	WRENCH 17 X 19
262	PWR1214	COMBO WRENCH 12/14MM
263	PWR810	WRENCH 8 X 10
264	P0516264	WRENCH 5.5/7MM
265	P0516265	WRENCH 36MM
266	P0516266	TOOLPOST WRENCH

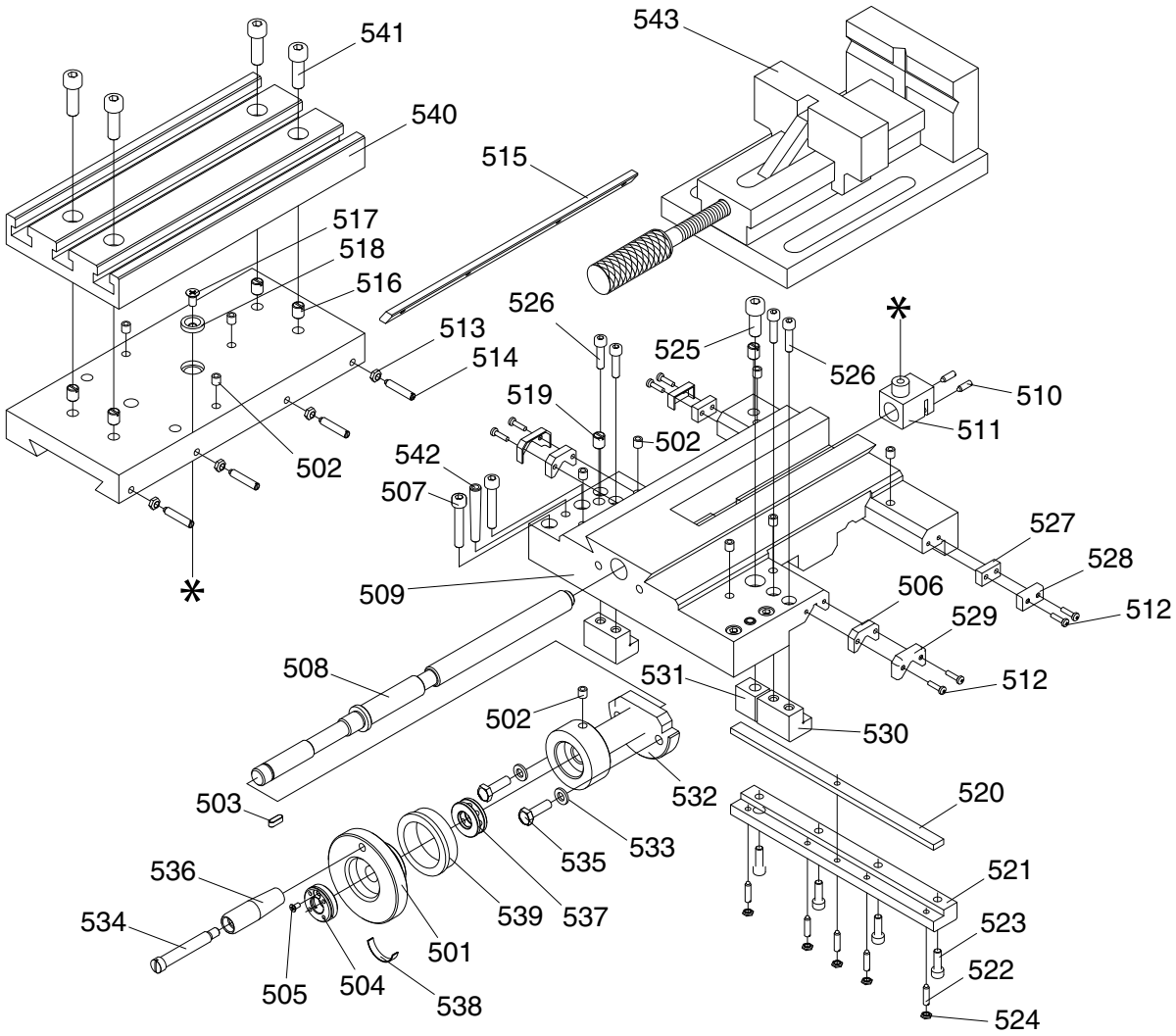


REF	PART #	DESCRIPTION
301	PS28M	PHLP HD SCR M8-1.25 X 30
302	P0516302	TAILSTOCK T-NUT 30 X 16 X 32
303	PW06M	FLAT WASHER 12MM
304	PN09M	HEX NUT M12-1.75
305	P0516305	TAILSTOCK BODY
306	P51101	THRUST BEARING 51101
307	P0516307	TAILSTOCK LEADSCREW
308	P0516308	TAILSTOCK SLEEVE
309	P0516309	TUBULAR CLAMP
310	PW01M	FLAT WASHER 8MM
311	P0516311	CLAMP BOLT 22 X 13.3 X 74
312	P0516312	HANDLE
313	P0516313	OIL CUP
314	P0516314	T-TAP FLAT KEY 12 X 12 X 7
315	PS11M	PHLP HD SCR M6-1 X 16

REF	PART #	DESCRIPTION
316	PS06M	PHLP HD SCR M5-.8 X 20
317	P0516317	TAILSTOCK END COVER
318	P0516318	CYLINDER PIN 4 X 30
319	P0516319	SPRING BOW
320	P0516320	HAND WHEEL
321	P0516321	HANDLE BOLT 60.5 X 10 X 8
322	P0516322	HANDLE SLEEVE
323	P0516323	INDEX RING
324	P0516324	SQ HD BOLT M12-1.75 X 100
325	P0516325	TAILSTOCK CLAMP PLATE
326	P0516326	BASE
327	P0516327	ZERO POSITION SCALE
328	P0516328	SCALE RIVET
329	P0516329	INDICATOR SCALE
330	P0516330	TAILSTOCK CENTER MT2

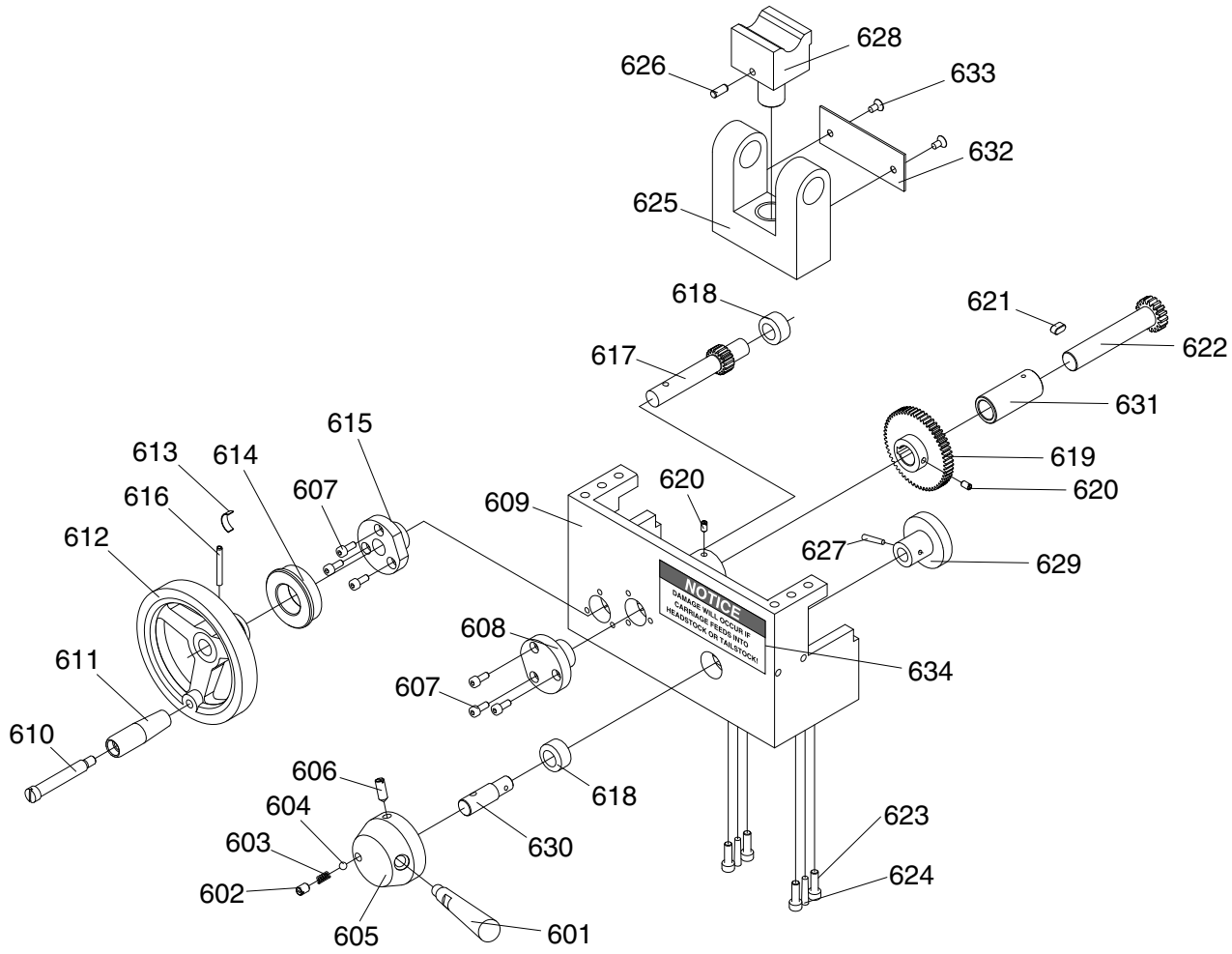


REF	PART #	DESCRIPTION
401	P0516401	CUTTER REST BASE
402	P0516402	CLAMP DISC
403	PB09M	HEX BOLT M8-1.25 X 20
404	P0516404	CUTTER REST DISC
405	P0516405	CUTTER REST BOLT 78 X 19 X 7
406	PN04M	HEX NUT M4-.7
407	PS52M	PHLP HD SCR M4-.7 X 20
408	PS02M	PHLP HD SCR M4-.7 X 12
409	P0516409	OIL CUP 10MM
410	P0516410	FIXING PIN
411	P0516411	SQUARE CUTTER REST
411-1	P0516411-1	REMOVABLE TOOL HOLDER
411-2	P0516411-2	TOOL HOLDER
411-3	P0516411-3	QUICK CHANGE TOOL POST ASSY
412	PS28M	PHLP HD SCR M8-1.25 X 30
413	P0516312	HANDLE
414	P0516414	HANDLE BASE
415	P0516415	HANDLE SPACER
416	P0516416	SPRING 0.5 X 3.5 X 17MM
417	P0516417	CUTTER REST CARRIAGE
418	P0516418	PAD IRON GIB
419	PRP44M	ROLL PIN 3 X 10
420	P0516420	CARRIAGE LEAD SCREW 120 X 16 X 65
421	PK39M	KEY 3 X 3 X 10
422	P0516114	OIL CUP 6MM
423	P0516423	LEADSCREW SUPPORT
424	PS40M	PHLP HD SCR M5-.8 X 16
425	P0516425	SPRING PLATE
426	P0516426	HANDLE
427	PN03M	HEX NUT M8-1.25
428	PW01M	FLAT WASHER 8MM
429	P0516429	CARRIAGE HANDWHEEL
430	P0516430	INDEX RING
431	PS11M	PHLP HD SCR M6-1 X 16
432	P0516432	CYLINDER PIN 4 X 16



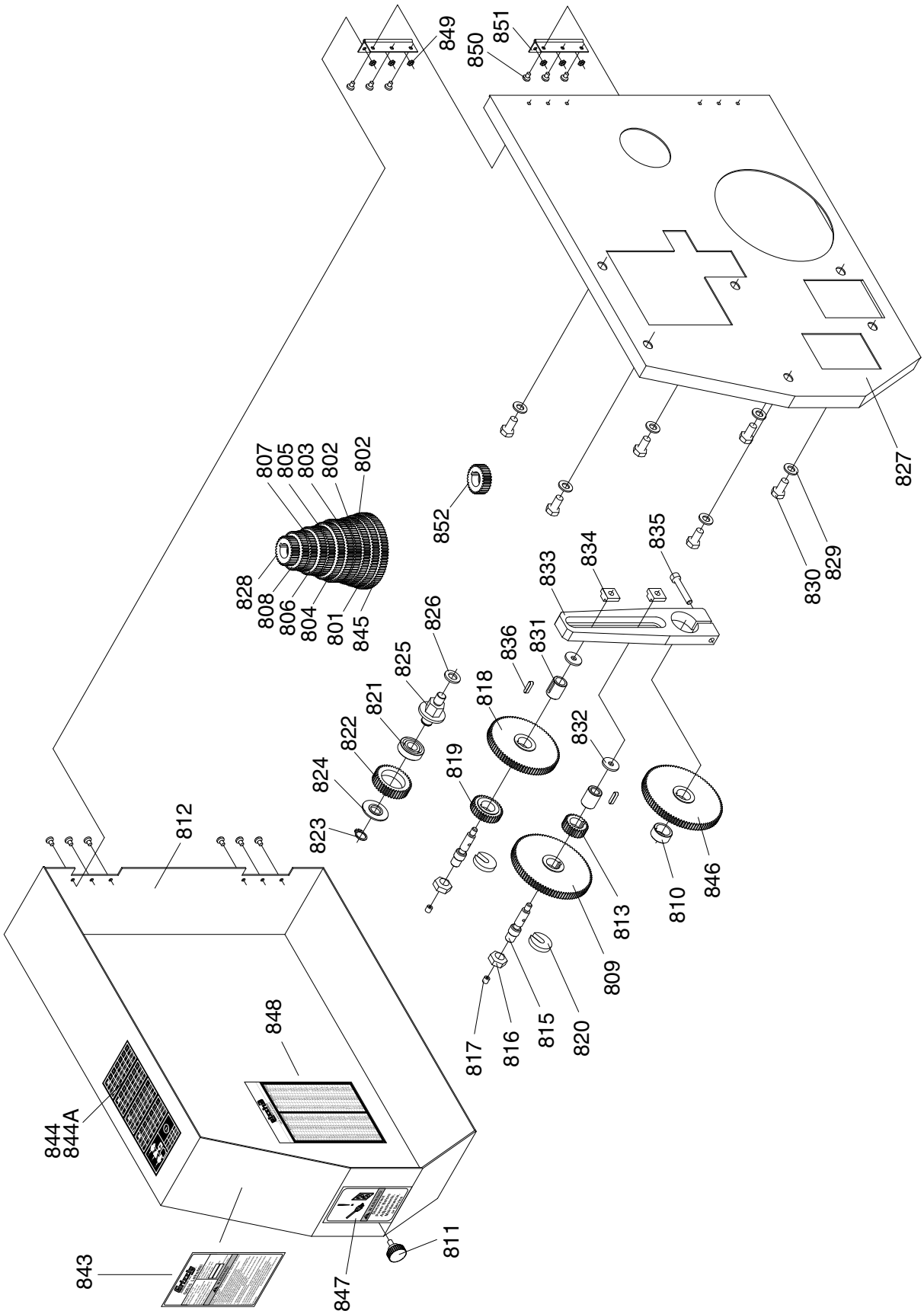
REF	PART #	DESCRIPTION
501	P0516501	HAND WHEEL
502	P0516114	OIL CUP 6MM
503	PK69M	KEY 4 X 4 X 12
504	P0516504	ROUND NUT 26 X 12 X 8
505	PS12M	PHLP HD SCR M3-.5 X 6
506	P0516506	OIL-STOPPING FELT
507	PS31M	PHLP HD SCR M6-1 X 35
508	P0516508	SADDLE LEADSCREW
509	P0516509	SADDLE
510	PS02M	PHLP HD SCR M4-.7 X 12
511	P0516511	CLEARANCE NUT 23 X 31 X 14
512	PS50M	PHLP HD SCR M3-.5 X 12
513	PN06M	HEX NUT M5-.8
514	P0516514	DOG POINT SET SCREW M5 X 25
515	P0516515	PAD IRON GIB
516	P0516516	CROSS SLIDE
517	PS09M	PHLP HD SCR M5-.8 X 10
518	P0516518	CROSS SLIDE SPACER
519	PS39M	PHLP HD SCR M8-1.25 X 10
520	P0516520	GIB STRIP
521	P0516521	REAR-CLAMP PLATE
522	PS56M	PHLP HD SCR M4-.7 X 16

REF	PART #	DESCRIPTION
523	PS40M	PHLP HD SCR M5-.8 X 16
524	PN04M	HEX NUT M4-.7
525	PS04M	PHLP HD SCR M8-1.25 X 20
526	PS06M	PHLP HD SCR M5-.8 X 20
527	P0516527	OIL-STOPPING FELT
528	P0516528	PROTECTING PANEL
529	P0516529	PROTECTING PANEL
530	P0516530	FRONT-CLAMP PLATE
531	P0516531	BRAKING PLATE
532	P0516532	LEADSCREW SUPPORT
533	PW03M	FLAT WASHER 6MM
534	P0516534	HANDLE BOLT 60.5 X 10 X 8
535	PB08M	HEX BOLT M6-1 X 20
536	P0516536	HANDLE SLEEVE
537	P8101	THRUST BEARING 8101
538	P0516538	SPRING PLATE
539	P0516539	INDEX RING
540	P0516540	MILLING TABLE
541	PSB13M	CAP SCREW M8-1.25 X 30
542	PRP58M	ROLL PIN 6 X 45
543	P0516543	MILLING VISE



REF	PART #	DESCRIPTION
601	P0516601	HANDLE
602	PS03M	PHLP HD SCR M6-1 X 8
603	P0516603	COMPRESS SPRING 6.1 X 4 X 2.5
604	P0516604	STEEL BALL 5MM
605	P0516605	HANDLE SEAT
606	PS11M	PHLP HD SCR M6-1 X 16
607	PS38M	PHLP HD SCR M4-.7 X 10
608	P0516608	END COVER
609	P0516609	APRON BODY
610	P0516610	HANDLE BOLT 60.5 X 10 X 8
611	P0516611	HANDLE SLEEVE
612	P0516612	HAND WHEEL
613	P0516613	SPRING PLATE
614	P0516614	INDEX RING
615	P0516615	SMALL SHAFT SLEEVE
616	PRP73M	ROLL PIN 4 X 30
617	P0516617	SMALL GEAR SHAFT

REF	PART #	DESCRIPTION
618	P0516618	SHAFT SLEEVE
619	P0516619	GEAR
620	PS07M	PHLP HD SCR M4-.7 X 8
621	PK06M	KEY 5 X 5 X 10
622	P0516622	GEAR SHAFT
623	PS40M	PHLP HD SCR M5-.8 X 16
624	PRP20M	ROLL PIN 4 X 22
625	P0516625	HALF NUT BASE 110 X 79.5
626	PRP59M	ROLL PIN 5 X 12
627	PRP42M	ROLL PIN 3 X 20
628	P0516628	HALF NUT 40 X 78 X 58.5
629	P0516629	SLOTTED DISC
630	P0516630	ROTATING SHAFT
631	P0516631	SHAFT SLEEVE
632	P0516632	MOVING PLATE
633	PS07M	PHLP HD SCR M4-.7 X 8
634	P0516634	CARRIAGE FEED NOTICE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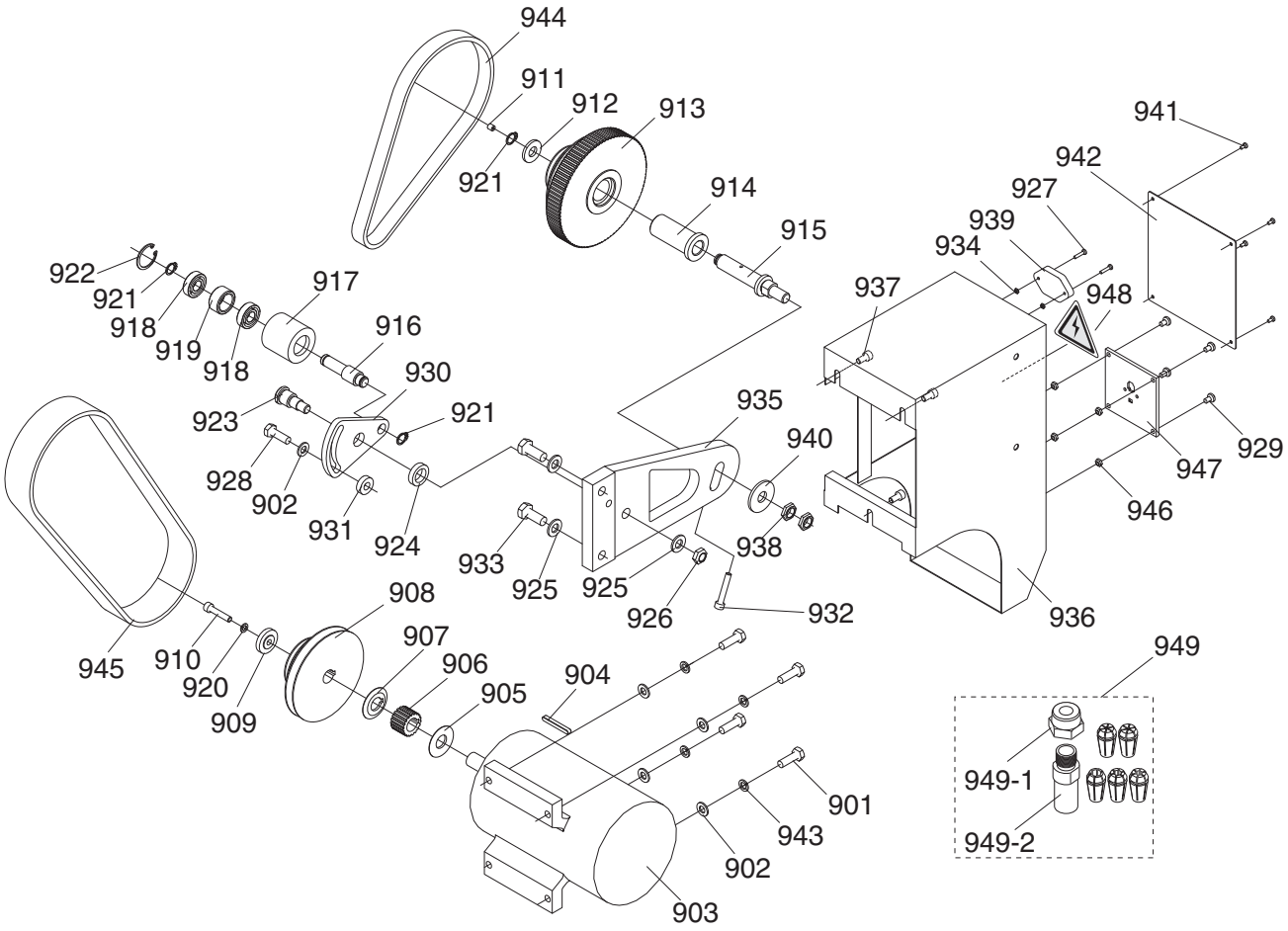
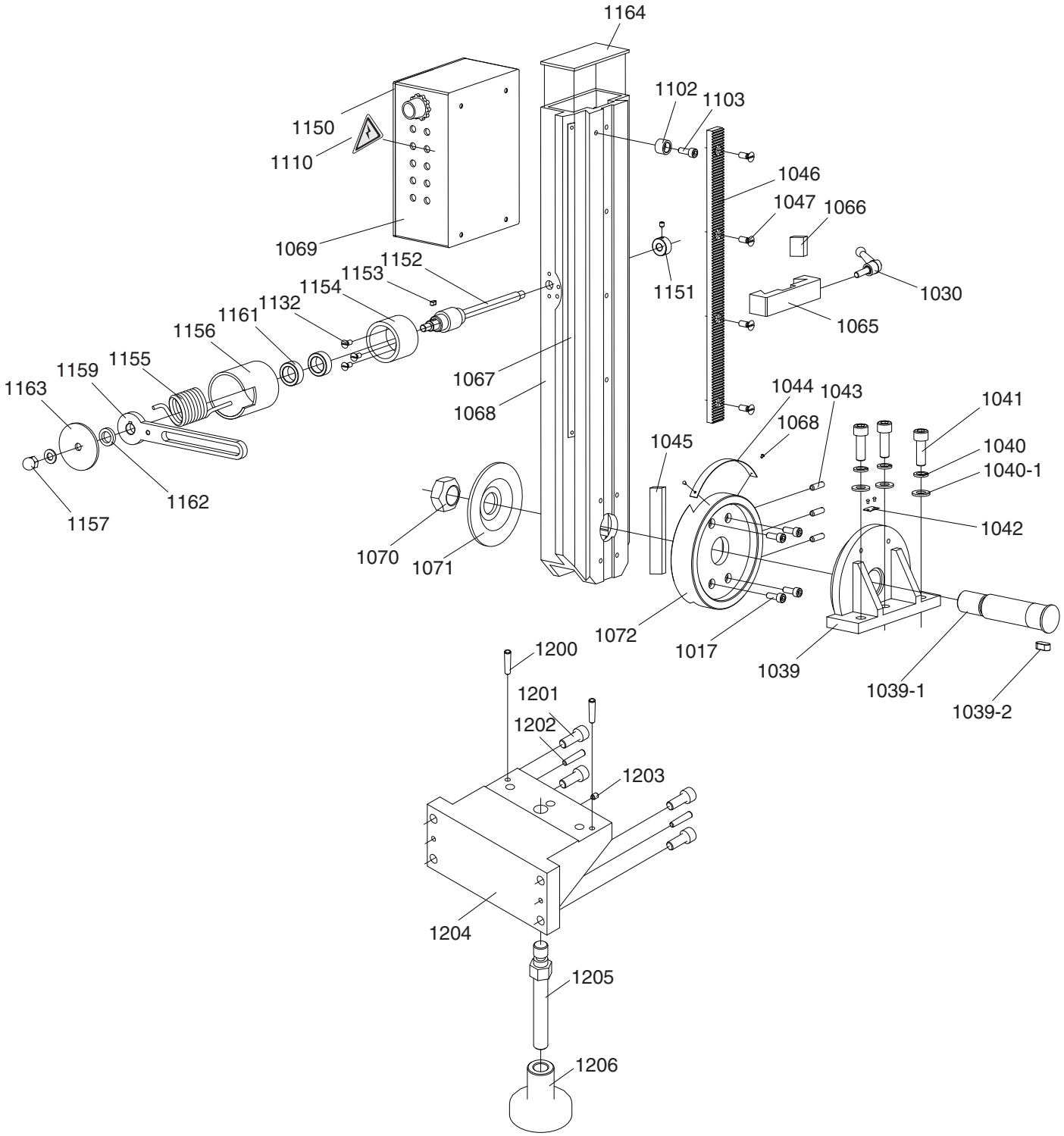
REF	PART #	DESCRIPTION
801	P0516801	GEAR Z:72
802	P0516802	GEAR Z:70
803	P0516803	GEAR Z:68
804	P0516804	GEAR Z:66
805	P0516805	GEAR Z:60
806	P0516806	GEAR Z:50
807	P0516807	GEAR Z:48
808	P0516808	GEAR Z:45
809	P0516809	GEAR Z:90
810	P0516810	PIVOT SHAFT SPACER
811	P0516811	KNURLING BOLT 20 X 5 X 23
812	P0516812	DRIVE/GEAR BOX COVER
813	P0516813	GEAR Z:30T
815	P0516815	ADJUSTABLE SHAFT
816	PN09M	HEX NUT M12-1.75
817	P0516114	OIL CUP 6MM
818	P0516818	GEAR Z:80
819	P0516819	GEAR Z:35
820	P0516820	OPEN LOCK WASHER 25 X 7 X 5
821	P6001	BALL BEARING 6001ZZ
822	P0516822	GEAR Z:40
823	PR03M	EXT RETAINING RING 12MM
824	P0516824	FRONT SHAFT SPACER

REF	PART #	DESCRIPTION
825	P0516825	FIXED-SHAFT BOLT 30 X 10 X 41
826	P0516826	REAR SHAFT SPACER
827	P0516827	SUPPORT PLATE
828	P0516828	GEAR Z:40
829	PW01M	FLAT WASHER 8MM
830	PB03M	HEX BOLT M8-1.25 X 16
831	P0516831	SLIDING BEARING 16 X 9 X 20
832	P0516832	ADJ SHAFT SPACER
833	P0516833	GEAR REST
834	P0516834	ADJ SHAFT NUT 15 X 8 X 16
835	PS31M	PHLP HD SCR M6-1 X 35
836	PK37M	KEY 4 X 4 X 16
843	P0516843	MACHINE ID LABEL
844	P0516844	GEAR CHANGE LABEL V1.11.02
844A	P0516844A	GEAR CHANGE LABEL V2.03.08
845	P0516845	GEAR Z:75
846	P0516846	GEAR Z:100
847	PLABEL-26	UNPLUG LABEL
848	PLABEL-27	MM CONVERSION CHART
849	PN04M	HEX NUT M4-.7
850	PS63M	PHLP HD SCR M6-1 X 4
851	P0516851	HINGE
852	P0516852	GEAR Z:65



REF	PART #	DESCRIPTION
901	PB26M	HEX BOLT M8-1.25 X 30
902	PW01M	FLAT WASHER 8MM
903	P0516903	AC MOTOR
904	PK02M	KEY 5 X 5 X 40
905	P0516905	MOTOR SHAFT SPACER
906	P0516906	DRIVE PULLEY
907	P0516907	KEYWAY SHAFT SPACER 37 X 16 X 2.5
908	P0516908	MOTOR PULLEY
909	P0516909	CHECK RING
910	PS62M	PHLP HD SCR M6-1 X 30
911	P0516114	OIL CUP 6MM
912	P0516912	GREAT WASHER 26 X 12 X 3
913	P0516913	COUNTER PULLEY
914	P0516914	SLIDE BEARING 30.1 X 16 X 62
915	P0516915	ARM SHAFT
916	P0516916	BEARING ARBOR
917	P0516917	TENSION PULLEY
918	P6001	BALL BEARING 6001ZZ
919	P0516919	SPACER
920	PLW03M	LOCK WASHER 6MM
921	PR03M	EXT RETAINING RING 12MM
922	PR19M	EXT RETAINING RING 28MM
923	P0516923	PIVOT
924	P0516924	PIVOT SPACER
925	PW04M	FLAT WASHER 10MM
926	PN02M	HEX NUT M10-1.5

REF	PART #	DESCRIPTION
927	PS59M	PHLP HD SCR M3-.5 X 14
928	PB07M	HEX BOLT M8-1.25 X 25
929	PS05M	PHLP HD SCR M5-.8 X 8
930	P0516930	FAN-SUPPORT
931	P0516931	ADJ SLOT SPACER
932	PS31M	PHLP HD SCR M6-1 X 35
933	PB32M	HEX BOLT M10-1.5 X 25
934	PN06M	HEX NUT M5-.8
935	P0516935	PULLEY SUPPORT
936	P0516936	MOTOR COVER
937	PS14M	PHLP HD SCR M6-1 X 12
938	P0516938	ARM SHAFT NUT M12
939	P0516939	SOCKET OUTLET
940	P0516940	SUPPORT SPACER
941	PS12M	PHLP HD SCR M3-.5 X 6
942	P0516942	ELECTRIC TOP COVER
943	PLW04M	LOCK WASHER 8MM
944	P0516944	TIMING BELT 1.5 X 124 X 15MM
945	PVM30	V-BELT M-30 3L300
946	PN06M	HEX NUT M5-.8
947	P0516947	MAIN POWER SOCKET
948	PLABEL-14	ELECTRICITY LABEL
949	P0516949	QUICK CHANGE COLLET SET
949-1	P0516949-1	COLLET NUT
949-2	P0516949-2	COLLET SHAFT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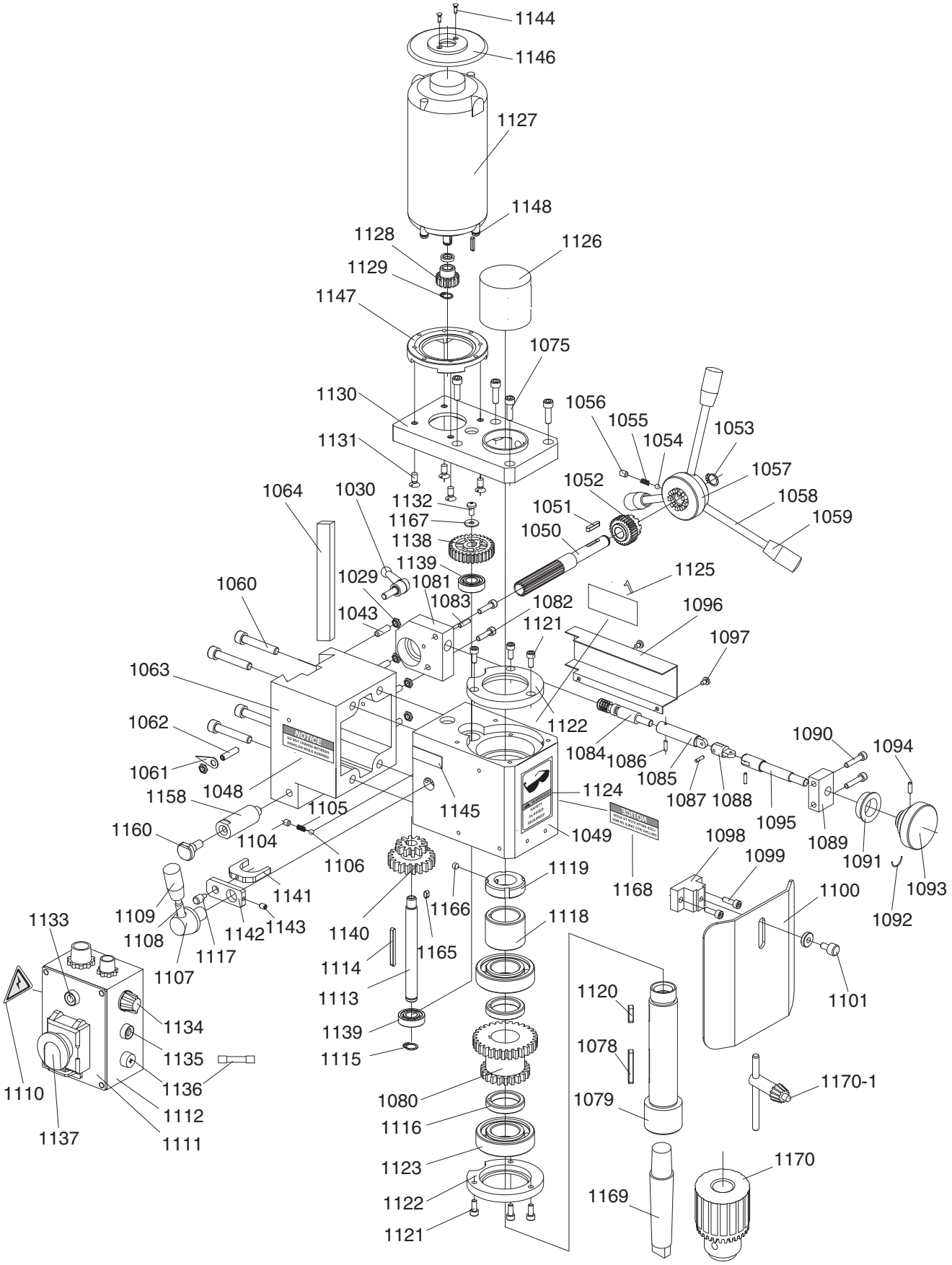
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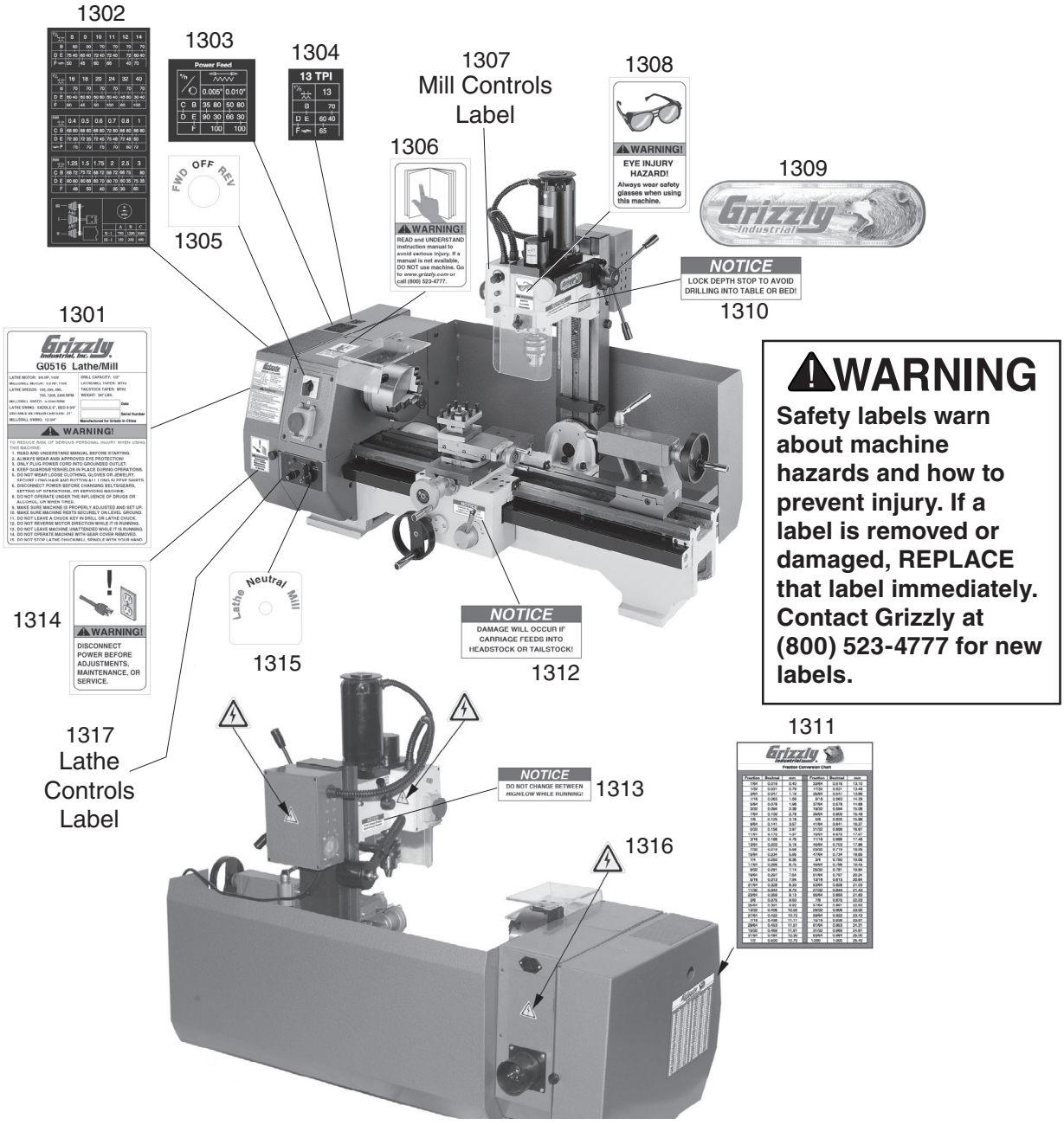
REF	PART #	DESCRIPTION
1017	PSB01M	CAP SCREW M6-1 X 16
1029	PN01M	HEX NUT M6-1
1030	P05161030	HANDLE
1039	P05161039	FUSELAGE SEAT
1039-1	P05161039-1	SHAFT
1039-2	PK70M	KEY 8 X 8 X 12
1040	PLW06M	LOCK WASHER 10MM
1040-1	PW04M	FLAT WASHER 10MM
1041	PSB72M	CAP SCREW M10-1.5 X 30
1042	P05161042	GUIDE FINGER
1043	PSS46M	SET SCREW M6-1 X 22
1044	P05161044	RULER
1045	P05161045	WEDGE
1046	P05161046	GEAR RACK 8 5/8"
1047	PSB26M	CAP SCREW M6-1 X 12
1048	P05161048	HIGH/LOW NOTICE
1049	P05161049	SPINDLE BOX
1050	P05161050	PINION
1051	PK30M	KEY 4 X 4 X 25
1052	P05161052	BEVEL GEAR
1053	PR03M	EXT RETAINING RING 12MM
1054	P05161054	BALL 5MM
1055	P05161055	SPRING 0.8 X 0.8 X 10MM
1056	PS03M	PHLP HD SCR M6-1 X 8
1057	P05161057	HANDLE STOCK
1058	P05161058	OPERATING LEVER
1059	P05161059	LEVER CAP
1060	PSB31M	CAP SCREW M8-1.25 X 25
1061	P05161061	GUIDE FINGER
1062	PSB06M	CAP SCREW M6-1 X 25
1063	P05161063	SPINDLE BOX SEAT
1064	P05161064	WEDGE

REF	PART #	DESCRIPTION
1065	P05161065	LIMIT BLOCK
1066	P05161066	WEDGE
1067	P05161067	RULER
1068	P05161068	RIVET
1069	P05161069	ELECTRIC BOX
1070	PLN09M	LOCK NUT M12-1.75
1071	P05161071	BIG WASHER 95 X 25 X 12
1072	P05161072	CONNECTING STRUT
1075	PSB02M	CAP SCREW M6-1 X 20
1078	PK02M	KEY 5 X 5 X 40
1079	P05161079	SPINDLE
1080	P8689080	TRANSMISSION GEAR (WIDE)
1081	P05161081	SUPPORT BLOCK
1082	PS06M	PHLP HD SCR M5-.8 X 20
1083	PRP60M	ROLL PIN 4 X 15
1084	P05161084	WORM
1085	P05161085	SLEEVE
1086	PRP61M	ROLL PIN 3 X 12
1087	PRP61M	ROLL PIN 3 X 12
1088	P05161088	ADJUSTABLE UNION
1089	P05161089	BRACKET
1090	PS22M	PHLP HD SCR M5-.8 X 25
1091	P05161091	DIAL
1092	P05161092	SPRING STEEL 1MM
1093	P05161093	SMALL HAND WHEEL
1094	PS40M	PHLP HD SCR M5-.8 X 16
1095	P05161095	SMALL SHAFT
1096	P05161096	COVER
1097	PS17M	PHLP HD SCR M4-.7 X 6
1098	P8689098	DUST COVER SUPPORT
1099	PS40M	PHLP HD SCR M5-.8 X 16

REF	PART #	DESCRIPTION
1100	P8689100	CHIP GUARD
1101	P05161101	CLAMP BOLT M6-1.0 X 12
1102	P05161102	UPPER END WASHER 16 X 7 X 11
1103	P05161103	END SCREW M6-1 X 16MM
1104	PSS02M	SET SCREW M6-1 X 6
1105	P05161105	SPRING .8 X 4.8 X 10MM
1106	P05161106	BALL 5MM
1107	P05161107	HANDLE SEAT
1108	P05161108	DOUBLE HD BOLT M8-1.25 X 70
1109	P05161109	KNOB
1110	PLABEL-14	ELECTRICITY LABEL
1111	P8689111	CONTROLLER
1112	P05161112	LABEL ON CONTROLLER
1113	P05161113	SHAFT I
1114	PK71M	KEY 4 X 4 X 45
1115	PR49M	INT RETAINING RING 12MM
1116	P05161116	SPACING RING
1117	P05161117	SMALL SHAFT
1118	P05161118	SPACING RING
1119	P05161119	SPINDLE NUT 42 X 36 X 6
1120	PK12M	KEY 5 X 5 X 30
1121	PSB03M	CAP SCREW M5-.8 X 8
1122	P05161122	BEARING COVER
1123	P6206	BALL BEARING 6206
1124	PLABEL-11	SAFETY GLASSES LABEL
1125	P05161125	FINE FEEDING LABEL
1126	P05161126	PROTECTING COVER
1127	P05161127	MOTOR
1128	P05161128	MOTOR GEAR
1129	PR16M	EXT RETAINING RING 9MM
1130	P05161130	MOTOR SEAT
1131	PFH02M	FLAT HD SCR M6-1 X 12
1132	PS05M	PHLP HD SCR M5-.8 X 8
1133	P05161133	LAMP
1134	P05161134	SPEED CONTROL KNOB
1135	P05161135	SWITCH
1136	P05161136	MILL FUSE F5A L 250V
1137	P05161137	STOP SWITCH
1138	P05161138	GEAR 30T

REF	PART #	DESCRIPTION
1139	P6001	BALL BEARING 6001
1140	P05161140	GEAR 12T/20T
1141	P05161141	BAR
1142	P05161142	LINKING BOARD
1143	PSS31M	SET SCREW M5-.8 X 8
1144	P05161144	TAPPING SCREW 2.9 X 8MM
1145	P05161145	H/L LABEL
1146	P05161146	MOTOR COVER
1147	P05161147	MOTOR FLANGE
1148	PS68M	PHLP HD SCR M6-1 X 10
1150	P05161150	PC BOARD
1151	P05161151	LOCK SLEEVE
1152	P05161152	ROTOR SHAFT
1153	PK72M	KEY 4 X 4 X 6
1154	P05161154	SPRING SUPPORT
1155	P05161155	TORSION SPRING 100 X 13.7
1156	P05161156	COVER
1157	PN03M	HEX NUT M8-1.25
1158	P05161158	PROP
1159	P05161159	SUPPORTING SHANK
1160	P05161160	SHANK SCREW 20 X 10 X 30
1161	P05161161	ROTOR SHAFT SPACER
1162	P05161162	SHANK COVER SPACER
1163	P05161163	SHANK COVER
1164	P05161164	TOP COVER
1165	PS12M	PHLP HD SCR M3-.5 X 6
1166	PS03M	PHLP HD SCR M6-1 X 8
1167	PW02M	FLAT WASHER 5MM
1168	P05161168	DEPTH STOP NOTICE
1169	P05161169	ARBOR MT#3~B16
1170	P05161170	DRILL CHUCK B16 1-13MM
1170-1	P05161170-1	DRILL CHUCK KEY
1200	PRP08M	ROLL PIN 6 X 30
1201	PS58M	PHLP HD SCR M10-1.5 X 40
1202	PRP08M	ROLL PIN 6 X 30
1203	PS03M	PHLP HD SCR M6-1 X 8
1204	P05161204	SUPPORT
1205	P05161205	SUPPORT BOLT 25.4 X 16 X 140
1206	P05161206	SUPPORT PLATE



WARNING

Safety labels warn about machine hazards and how to prevent injury. If a label is removed or damaged, REPLACE that label immediately. Contact Grizzly at (800) 523-4777 for new labels.

REF	PART #	DESCRIPTION
1301	P0516843	G0516 MACHINE ID LABEL
1302	P0516844A	GEAR/SPEED CHANGE LABEL
1303	P05161303	FEED SPEED LABEL
1304	P05161304	13TPI THREADING LABEL
1305	P05161305	FWD/REV LABEL
1306	PLABEL-12A	READ MANUAL LABEL
1307	P05161307	MILL CONTROLS LABEL
1308	PLABEL-11	SAFETY GLASSES LABEL
1309	PLABEL-10	COLORED GRIZZLY LABEL

REF	PART #	DESCRIPTION
1310	P05161168	DEPTH STOP NOTICE
1311	PLABEL-27	INCH/MM CONVERSION CHART
1312	P0516634	CARRIAGE FEED NOTICE
1313	P05161048	HIGH/LOW NOTICE
1314	PLABEL-26	DISCONNECT POWER LABEL
1315	P05161315	LATHE/MILL LABEL
1316	PLABEL-14	ELECTRICITY LABEL
1317	P05161317	LATHE CONTROLS LABEL

WARRANTY CARD

Name _____

Street _____

City _____ State _____ Zip _____

Phone # _____ Email _____ Invoice # _____

Model # _____ Order # _____ Serial # _____

The following information is given on a voluntary basis. It will be used for marketing purposes to help us develop better products and services. ***Of course, all information is strictly confidential.***

1. How did you learn about us?

____ Advertisement ____ Friend ____ Catalog
____ Card Deck ____ Website ____ Other:

2. Which of the following magazines do you subscribe to?

____ Cabinet Maker
____ Family Handyman
____ Hand Loader
____ Handy
____ Home Shop Machinist
____ Journal of Light Cont.
____ Live Steam
____ Model Airplane News
____ Modeltec
____ Old House Journal
____ Popular Mechanics
____ Popular Science
____ Popular Woodworking
____ Practical Homeowner
____ Precision Shooter
____ Projects in Metal
____ RC Modeler
____ Rifle
____ Shop Notes
____ Shotgun News
____ Today's Homeowner
____ Wood
____ Wooden Boat
____ Woodshop News
____ Woodsmith
____ Woodwork
____ Woodworker West
____ Woodworker's Journal
____ Other:

3. What is your annual household income?

____ $20,000-$29,000 ____ $30,000-$39,000 ____ $40,000-$49,000
____ $50,000-$59,000 ____ $60,000-$69,000 ____ $70,000+

4. What is your age group?

____ 20-29 ____ 30-39 ____ 40-49
____ 50-59 ____ 60-69 ____ 70+

5. How long have you been a woodworker/metalworker?

____ 0-2 Years ____ 2-8 Years ____ 8-20 Years ____ 20+ Years

6. How many of your machines or tools are Grizzly?

____ 0-2 ____ 3-5 ____ 6-9 ____ 10+

7. Do you think your machine represents a good value? _____Yes _____No

8. Would you recommend Grizzly Industrial to a friend? _____Yes _____No

9. Would you allow us to use your name as a reference for Grizzly customers in your area?
Note: *We never use names more than 3 times.* _____Yes _____No

10. Comments: _____

_____

_____

_____

CUT ALONG DOTTED LINE

FOLD ALONG DOTTED LINE

Place
Stamp
Here

GRIZZLY INDUSTRIAL, INC.
P.O. BOX 2069
BELLINGHAM, WA 98227-2069

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Send a Grizzly Catalog to a friend:

Name_____

Street_____

City_____State_____Zip_____

TAPE ALONG EDGES--PLEASE DO NOT STAPLE

WARRANTY AND RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

To take advantage of this warranty, contact us by mail or phone and give us all the details. We will then issue you a "Return Number,'' which must be clearly posted on the outside as well as the inside of the carton. We will not accept any item back without this number. Proof of purchase must accompany the merchandise.

The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

Please feel free to write or call us if you have any questions about the machine or the manual.

Thank you again for your business and continued support. We hope to serve you again soon.

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